

Curvus Triumphalis, è Terebinthô.

OR AN

Account of the many admirable Vertues

Bar OF *Penny*
Oleum Terebinthinæ.

More particularly, of the good effects produced by its application to recent Wounds, especially with respect to the *Hæmorrhagies* of the Veins, and Arteries, and the no less pernicious weepings of the Nerves, and Lymphaducts.

Wherein also, the common Methods, and Medicaments, used to restrain *Hæmorrhagies*, are examined, and divers of them Censured.

And lastly, A new Way of Amputation, and a speedier convenient Method of curing Stumps, than that commonly practised, is with divers other useful matters recommended to the Military Chirurgeon,

IN TWO LETTERS:

The one to his most Honoured, *James Pearse* Esq; Chirurgeon to His Royal Highness the Duke of York, and Chirurgeon General to His Majesty's Navy Royal.

The other, to Mr. *Thomas Hobbs*, Chirurgeon in London.

By JAMES YONGE.

L O N D O N,

Printed for *J. Martyn*, Printer to the Royal Society, at the Bell in St. Paul's Church-yard. 1679.

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TO

His much Honoured

JOHN KNIGHT, Esq;

Serjeant Chirurgeon to His

MAJESTY.

SIR,



After Mr. *Pearses* Command and Approbation, had obliged me to make publick, what (in an accidental congress of some Chirurgeons in *London*) I had transitorily delivered, concerning the constrictive faculty of *Oleum Terebintbinæ* : I soon resolved to address the results of my obedience to him, in a dedication to your self; in which presumption I am become encouraged, and confirmed by many prevailing conside-

A 2

rations ;

The Epistle

rations : the principal of which is, your readiness to undertake its Patronage, and permission given me so to direct it: Motives not much less considerable and important, are your kind and charitable approving, what I have there delivered; the many other favours you have conferred on me; the courtesie with which at all times and occasions, you have treated me; the competency of your Judgment, to licence and justifie my procedure; the eminency of your place (no mean demonstration of your abilities and merit. If the extraordinary intuition of the *great Master* (especially of men medically professed) and your having so long served him, as his personal Chirurgeon, be considered.) And lastly, the benefit of *your* Countenance and Patronage, to promulgate and credit the Discourse among the military Men of our Art, over whom you have so high an Office, and influence.

These, Sir, were the occasions of my
affixing

Dedictory.

affixing your Name to so mean a trifle;
and these are the sentiments I have of
those motives : the former enforced me
to this presumption, the latter have ob-
liged me, thankfully to acknowledg
your favours, and ever to be, Sir,

Your most devoted humble

Plimouth, July 5.

Servant,

1 6 7 8.

JAMES YONGE!

A 3

THE

Thank you for the letter of the 10th inst. and for the
information it contains. I have of
course most respectfully acknowledged
it and in reply have ob-
tained from the Secretary of the
Board of Education the acknowledgment
of your letter of the 10th inst.

Yours very truly

James A. Smith

JAMES A. SMITH

THE

A

THE PREFACE.



*Though the Mercurius every Term,
and the Gazette twice a week,
redundantly answer that common
enquiry of the literate, What
new Books are come out: yet con-
sidering some writings of the present day,
relating to our Art, Solomon long since an-
ticipated a sutable Response; There is
nothing new under the Sun. Such plagi-
ary obsolete stuff as they consist of, being
obtruded on the World to no better use, than
verifie a Paradox of great affinity with that
of the wise King, Nihil dictum quod
non dictum prius, justifying also his com-
mon censure, they contain nothing new.
Such ridiculous and easie thieves are their
Authors, that they expose to publick sale the
plate, &c. they steal, without altering what*

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may discover it, except the name of the proprietor, in place of which they insert their own: the only thing they can justly call so, except the vain picture, and ordinary Title in the frontispiece: such uncunning Pens are so far from obliging the World, that they become our debtors, not only for the money their books cost, but for the time misspent in perusing them.

That I may with equal innocency, and truth, make this reflection here, will, I hope good Reader, be manifest to thee, on a candid and ingenuous perusal of the ensuing Discourse, when in the most material part thereof, thou shalt find things neither old, nor borrowed; somewhat of the last may have occurred in the collateral part, (disowned by quotation) where also I may have had the luck to jump with another man's Opinion, and sense: but that being mostly (if at all) in the reflections, &c. to nick another man's sense, is but to have his experience, when I aver it impossible, but the same inconveniencies must occur to his notice, and consequently, (be he ingenious) cannot escape his Censure.

To

The Preface.

To quit my self wholly from stealing o-
 ther mens Notions, or Inventions, and pub-
 lishing them as my own, there remains yet a
 piece of Justice for me to do, which relates
 to the subject Arcanum; if it be not new
 to the Public, my memory, or my intelligence
 hath failed me; that it was communicated to
 me some years since, by a worthy * Physician,
 upon my dismembring a Patient to us both, is
 my duty to acknowledg, though I conceal his
 name, because he confess'd it a Secret reveal-
 ed to him by another, whose private and ori-
 ginal exploration it was.

* Dr. J. Sprage, &
 Dr. T. pen-
 cer, are the
 persons
 here inti-
 mated,
 whose
 names I
 resolv'd
 to con-
 ceal, till I
 found my
 self neces-
 sitated to
 the con-
 trary, by
 one from
 whom I
 am sorry
 and asha-
 med to re-
 ceive the

occasion; It's one Mr. *Jinkinson*, of this Country, who (whilest these papers
 were perus'd by some Ingenious men of the Faculty in *London*) clancular-
 ly & disingenuously insinuated among them there, that he was not only the
 first that applied Oil of *Turpentine* to restrain the hemorrhages of wounds,
 but that all the observations I had there written were communicated from
 himself to me; the falshood of which arrogance I could abundantly mani-
 fest, together with the frequency of his so dealing not only with my self,
 but all other of the Fraternity with whom he hath conversed in these parts;
 but I consider of a sufficient eviotion that I insert the true Author's name,
 and thus publickly accuse him of falshood in that pretence, as I have also
 privately done before some Friends, where both in word and writing he
 disclaim'd what in *London* he had assumed; and I do further aver that I
 was the first, and am hitherto the only man that ever us'd it after Am-
 putations, and that this Calumniator hath not for the seven last years, i.e.
 since he knew the Secret, had opportunity so to do, nor (except one) any
 other eminent occasion to experiment it; and although such rudeness
 would justly raise higher resentments, and force more severe reflections
 (of which few men are more capable) yet I shall here forbear him in re-
 spect to the reputation of our Profession and him, that educated us both
 therein, viz. my ever honoured Mr. *S. Richmond* of *Liverpool*.

The

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The ground of whose finding it, is so notable, that it deserves your notice. Some Chirurgeons using the Levant, had told him, That the Turks, as soon as they have amputated, use to dip the stump in hot Tar, and that they thereby securely restrained the Flux, and laid the foundation of a very good digestion: The way seeming too brutish and terrible to be imitated, he considered how to contrive it more neatly, and began to think what Medicine had affinity with Tar: none seeming more like it than Turpentine; he supposed that the Oil (containing in it the Balsam) as it was more likely to be the stronger digestive, so also it might as effectually restrain the Flux; he accordingly experimenting it, found it by many trials, to exceed even his hopes and expectations.

The distinctions I have made of the several ways of restraining Hemorrhagies, together with the reasons, censures, and objections contained in my charge against them, are wholly my own: for though the number of them are exactly equal, with those of famous

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mous Dr. A. Read, upon the like subject ; yet the matter of them will appear , on comparison very different ; I forbear to intimate wherein, in honour to his name, and works.

The Experiments and Observations explaining and confirming the operation of our celebrated Balsam, I must also own ; the former, I want time and opportunity to enlarge ; the later is but a few of many more, I might produce, to verifie what I have said of its stopping Hemorrhagies. Let it suffice that I never yet knew it fail.

The design of this Publication, is to recommend to thee a cheap, common, and incomparable Medicine that duly claims preference from all others, for the first dressings of recent Wounds, performing at once all the principal intentions, viz. restraining the Hemorrhœa, and lachrymations, inducing digestion, preventing Convulsions, &c. All which are not otherwise performed, but by different applications, longer time, frequent miscarriage, and greater uncertainty.

*The occasion of my thus publishing it, for
the*

The Preface.

the sake of whose commands, and to whom you are indebted for the benefit thereof (if any such thing accrew) is at large discovered in the beginning of the Discourse.

I hope my integrity in those well intended endeavours, will deserve thy charity and candor, of which there will be great need, because many little failures and defects, must I know occur, (impossible to avoid) under the haste, wherewith it was written, the mixture and disturbance of other avocations, and the disadvantage of my undertaking so unpresidented a work.

As for the great and avowed faults, viz. the boldness of the attempt, the harsh, and seemingly unbecoming criminations, I hope thou wilt find my Apology and justification in the reasons there suggested, in the Authorities there quoted, and in thy own sense and apprehension also, if thou put these things to the test thereof. Not that I am insensible how high a presumption, and confident an undertaking it is, for a young Country Practitioner, to impeach, as I have done, the Methods

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thods and Medicaments which prescription hath endeared, and made familiar; though I have the vanity to presume, I have substituted better in their room; and thereby recompenced the rejection of those more numerous, though more fallible ones.

But though I have rejected the practice, I have, and ever will be civil to the memory of the Practitioners of past-days, and retain a veneration for their Names: to do otherwise, were to anticipate a censure for my self, because the Medicine, &c. here discours'd of, may be as much exceeded by Posterity; a piece of consideration and good nature, wanting in many of the Novel Writers; especially Helmont, and all the little Chymists that pretend to be his followers, though they are so, in nothing so much, as in this ranting opprobrious way.

Somewhat of example, and imitation I might alledg; and excuse the presumption, by the Mode of the undertaking, for such the practice of this present Age hath made it, it being become frequent to examine, censure, and publickly reject, almost all the old received

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ceived Opinions and Practices ; and introduce new ones, not only in Physick, but Divinity, Philosophy, and all sorts of Learning and Arts : this is the avowed design (and hath been very well performed by some) of those learned Men : the Lord Bacon, des Cartes, Gassendus, Dr. Charleton, Mr. Hobs, Sir T. Brown, Dr. Mayow, Fr. Travaginus, Guardinus, Honoratus, Fabri, and many more Philosophers : by Paracelsus, Helmont, Severinus, Hostamannus, Zwelver, Crollius, Sylvius de Boe, the Author of Medela Medicinæ, and all the Chymists ; by Dr. Harvey, the Bartholines, Theod. Kirkringius, N. Steno, J. Swammerdam, M. Malpiglius, Reg. de Graet, and all the Neoterick Anatomists : by Mr. R. Hook, Galileus, and the Copernicans, Mr. R. Boyle, Dr. Willis, Dr. Lower, Mr. Newton, Mr. Glanvil, &c. with all the Virtuosi, besides the shoal of Yelpers after amendments, and Reformation, in matters relating to the Church and Religion. In fine, it's a liberty every

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every one takes, as he (at least) fancieth he hath reason on his side, to explode old opinions and practises, and introduce new ones; how much Reason, how many undoubted Experiments, and how many authentick Authors (the three grand inducements to believe) I have on mine, to justifie my design, and oblige my profession, will without doubt appear effectually to all ingenious practisers of it.

And as in the Histories of the lives of great Men, though they became renowned, by but one eminent act; all their lesser performances are recorded (though no way contributing) to their fame; so I have given an account of the other many Vertues of *Oleum Terebinthinæ*, besides that for which it is here principally celebrated, by which I hope I have made no unnecessary or impertinent accession, to the reputation of the Medicine, or price of the Book.

And lastly, I have superadded, an account of a new way of Amputation, and a speedier of healing the stumps by Consolidation, which (how paradoxical soever it may seem) hath
many

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many advantages to the Practitioner and Patient, above all the yet known and practised ways; some other Curiosities are ready for the Publick, if thy candor and kindness to these invite them to forsake that privacy they enjoy, under his custody, who is more kind to himself, than (without such a temptation to allure, and encouragement to secure him) to hazard more than once, thy spleen or thy scorn.

Plim. July 8.
1678.

J. Y.

THE

THE SUMMARY.



HE accidental occasion of penning and publishing this Letter. Page 1, 2

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No certain infallible Medicine, or Method yet found that can do it. p. 4

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Or expensive profluence of blood, &c.

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The Reader will injure himself, and prejudice the Author, if he adventure to peruse this Discourse, till he have corrected with his Pen the following Errata; which by reason of the Author's absence from the Press, have occurred.

Page 1. line 3. read Vertues, p. 5. l. 22. r. eight distinctions, p. 6. l. 4. put an *asterisk* over *Hippocrates*, and another in the opposite Margent over, in *hypp. pred.* p. 7. l. 14. r. injured, p. 9. in the Margent, r. *anno 73*: p. 11. l. 27. leave out of, p. 15. l. 16. r. these dissuading, p. 17. l. 13. r. monstrous, p. 20. l. 8. r. Styptick liquor, p. 26. l. 9. r. incarnative, p. 30. l. 8. r. to lay a wadd, l. 18. r. Vessels, p. 32. l. 1. r. used to, p. 35. put an *asterisk* on the quotation from Dr. *Willis*, l. 13. r. Phlegmon: in the margent r. *dixit*, p. 36. l. 30. r. digestives, p. 40. l. 22. r. for what, p. 41. l. 26. it adhereth, p. 43. l. 7. leave out, that, l. 13. r. it to be, p. 44. l. 23. leave out, yet, p. 52. l. 21. r. their discharge, p. 54. l. 2. r. insinuating, p. 57. l. 6. any others, l. 21. the first sentence in the last period, should be joined to the preceding, p. 58. l. 2. r. general, l. 24. r. nervous liquor, p. 63. l. 21. r. page 23. p. 64. l. 2. that I attribute, in the Margent, r. tract 1. p. 67. l. 4. r. Vessels, p. 78. l. 8. r. *Carpus*, p. 80. l. 16. r. two, p. 82. l. 2. r. *Margarit*, l. 20. r. temporal and frontal, p. 87. l. 21. r. *Nervinum*, p. 88. l. 18. r. Comphory, p. 93. l. 4. r. lib. 6. melf. p. 94. l. 1. r. Phlebotomy there, being such, p. 102. l. 2. r. *Coag.* p. 104. l. 15. leave out q. f. p. 105. l. 6. r. worse, p. 111. l. 9. r. the usual, p. 115. l. 6. r. *Hypersarcosis*, p. 118. l. 5. leave out, no. Some mis-pointings and such less obvious Errata, are left to the Readers Ingenuity to correct as he finds them.

A N
EPISTOLARY DISCOURSE,

Concerning the Virtue of

Oleum Terebinthinæ.

 Can not forget, that at one of the many times, I had the happiness to be (*Worthy Sir*) in your company in *London*, some other of the Faculty being present, there occurred a Discourse concerning *Restringent Medicins*: by which was meant, such as are the most celebrated, approved, and practised, to restrain the *Hemorrhagies* of Wounds; the *Aqua Styptica*, and *Galen's* famous Powder, together with proper *Ligature*, were preferred to all others. After some discourse on this occasion, I presumed to offer one, which (besides its other very many advantages for curing Wounds) I had found by many trials, the most happy and successful, I had ever read, heard off, or experimented, and that was common *Oleum Terebinthinæ*: Mr. H-- making some doubt concerning it, constrained me,

B thought

Currus Triumphalis,

though before such intuitive men, to attempt the reason thereof; it being indecent to impose on Company, things which publick experience had not avowed, or my self could not as readily confirm by Sense, or Argument, as affirm by Narrative; it being more modest where things seem improbable (though true) and not readily verifiable by reason, or experience, to be silent.

Wherefore, because the circumstances allowed not of present proof, by the infallible test of the former, I offered by way of the latter, what my barren fancy could suggest to me under such discouraging circumstances, as were the sudainess of the occasion, my unpreparedness, and the sagacity of the Company, which could not but awe a more resolute undertaker than my self. What I offered, you seemed particularly pleased with, and advised me to make it known to the Publick.

Nothing so much as your approbation, could have perswaded me to think so well of any thing I there suggested, nor ought besides your Commands, have induced me to commit to every man's knowledge, what hath hitherto lain private in the breasts of a very few; but Sir, your Judgment ought to be the touchstone of my Reason, no less than your Commands, the unlocker of my greatest and more secret *Arcanum*, whence the Patient,
and

and Practitioner, if any advantage accrew to either by this publication, become obliged and redevable to you; the defects, and miscarriages of what kind soever, ought only to rest on my account.

I know it's too common with many of the Fraternity, to slight and contemn all Novel discoveries, of this or the like nature, thinking that nothing can more effectually secure the bleeding of wounds, than Cauteries, Deligation, or what other ways Education or Custom hath made more familiar and practicable to them, but all those men do not consider the direful consequences of some; the unsuccessfulness of other such means, and methods. The intolerable pain of Cauteries, whether actual or potential, are sufficiently, and with good reason inveighed against, by *Pareus, Wurts, &c.* The After-fluxes, notwithstanding tying up the Vessels, the Crudity and indigestion occasioned by the common Stypticks, and Restringtons, the Fevers, Mortifications, Convulsions, loss of substance, ill-shaped Cicatrices, and stumps, the tedious continuation of Eschars, the the large, and enervating Synovia's; together with a number of other less accidents, that are the common and fatal consequences of the usual and most practised ways, cannot possibly occur by the use of this Balsam, if the Directions herewith given be observed.

Nor is the securing *Hemorrhagies* so very trite and easie, as some men make it. You, Sir, do well know the contrary; and that the death of many a stout Souldier and hardy Seaman, too sadly demonstrates, that an infallible remedy, to staunch the bleeding of Wounds is yet wanting, especially such an one, as with ease and benignity doth atchieve it; that this which I here recommend (though I affirm not its infallibility) merits the precedence of all yet known, and consequently ought to have the esteem of every Artist, will I hope appear from the following Reasons and Observations, the latter of which every ingenious Professor may confirm and improve, as he hath occasion and opportunity.

Give me leave, Sir, (after I have begged pardon for the presumption of this Address, to which I became inclined and encouraged; by your favourable thoughts of the more imperfect account I gave thereof, and on consideration of the fitness such discoveries have for your approbation and notice, as being deservedly the general superintendent of those for whom it's designed, and consequently the most pertinent and proper hand, by which it could be conveyed to their knowledge, or recommended to their practice and consideration) to manage my design, and discourse

course in this order and method. *First*, To relate the several operations, methods, and medicaments, which are most usually practised to stop or restrain *Hemorrhagies*, and therein to take occasion to reflect on some, the most inartificial and successless, and to reject them. *Secondly*, To endeavour to demonstrate, how our Oil of Turpentine doth perform it. *Thirdly*, To give some directions to be observed in the use, choice, and application thereof. *Fourthly*, To demonstrate the other adventitious benefits, acquired to Wounds, (besides restraining the bleeding) by means of this Balsam. *Fifthly*, To illustrate, and confirm the truth of all *de facto*, by relating several observations, wherein it proved successful. And *lastly*, to relate the very many other medicinal Vertues of this Oil, both as internally administred, or externally applied.

The ways in general, by which the *Hemorrhagies* of Veins and Arteries are stopped, are reducible to these several right distinctions.

The first, is by stagnating the blood in the *extream parts*, and allaying its briskness, and motion in the larger Vessels: which is atchieved by immersing the body in cold water, or wrapping it in sheets moist with *Posca*, or administring Opiat medicines, or other such whose cold quality fixeth the bloud, or slackens its circulation. Such are *Sal Prunella, aq.*

B 3

Sperm.

Sperm. Ranarum, &c. against all which I have this to Object.

First, That it's a great retarder of digestion; for whatever cooleth and allayeth fermentation, hinders maturation; this I speak of it, when used to that degree it ought, to effect the aforesaid design; not that I would wholly, even in the most sedate temper omit the use of moderate Julaps, or sometimes a slight *Hypnotick*, to allwage pain and procure rest; nor on the other hand would I use them too liberally, as they frequently are, and that because (as I have said) they are so great an Impediment, to the ground-work of healing large Wounds, nor do I only dislike their use where they pretend to stop Fluxes; but as commonly they are designed also, to prevent and cure the symptomatical Fevers, usually attending green Wounds; for that Fever is not only necessary, but inevitable, and that because it's usually both the effect, and (pardon the *Solecism*) the cause also of digestion, as hath been long since intimated to us by *Hipocrates*, and * *Galen*. Therefore, where vehement symptoms make such Medicines necessary, I would recommend the mixture of such ingredients as may also promote the Coction, by which the Fever shall be more allayed, than by the cold, anodyne things: This in Julaps, is easily done by cocting in them

* Lib. 47.
cap. 2. in
Hipp. praedict.
lib. 1. 1.
c. 13.

them, *saffron*, *figs*, &c. or the good old Pti-
san-drink, of *Hordeum* and *Liquoris*.

Secondly, This way is defective, imperfect,
fallible, and of it self unable to answer the
designed intention, or at best but a cojuvant
Remedy, only quieting the motion of the
bloud, while more secure ways of stopping
the mouths of the Vessels, may be made use
of, compleatly to effect it.

Thirdly, By the use of Medicines highly
cold, (whether actually, or potentially so)
without which this design pretends not to be
effected; the *nervous genus*, may become in-
sured, whereby the common attendants of
large Wounds, *Palsie*, *Convulsion*, *Spasms*, *Num-
medness*, and *Insensation*, may be occasioned.

Fourthly, The immersing the Body in cold
water, or the inclosing it in Linnen wet with
Water and Vinegar; whatever advantage
they may procure *pro tempore*, their after-
effects, are like to be very mischievous; and
contrary to the design of their use; and
that is, provoking an after-flux, either by
begetting heats, or a feverish motion in the
bloud, which it accendeth as other colds do;
that is, (to say nothing of the doctrine of
Antiperistasis) by shutting the pores of the
skin, whereby the various recrements that
used to transpire that way, being pent up,
regurgitate, which Nature endeavouring

* D. Low-
pr de orig.
Catarrh.

to separate, and reject by a febrile fermentation; the blood becomes inflamed; as is evident in *Agues*, the great heat in the hands, and feet, and toes, and fingers, and often *Phlegmons* (for such are *Kibes* and *Chilblains*,) on them both, after great cold, and handling Snow: or by separating the serous parts thereof; and so a * *Catarrh*, *Cough*, &c. is occasioned, which begets such a saltation in the blood, that except the wounded Vessels be well secured, it will very aptly break bounds; this is manifest in *Phlebotomy*, where it's frequent to put the Patient a Coughing, to make him bleed. I once had a near Relation, who to stop an *Hemorrhage*, lapped his naked body in moistned Sheets, but it begat a fatal *Metap-
tosis*, or commutation, for such a *Catarrh* ensued, as dwindled away his life by a five months *Consumption*: wherefore even in *Hemoptysis*, or spitting of blood, from the *Anastomosis* of a Vessel, either in the *lungs*, *stomach*, *spleen*, &c. It must be of hazardous use, in which cases, though perhaps *Opiats*, and other coolers and thickeners may have been successful; yet doth it not invalidate my objections against their use in bleeding of Wounds: because *first*, no digestion being required in internal bleedings, as there is in Wounds, one great Objection against it, is unconcerned. *Secondly*, Internal bleedings are

are incapable of local applications, so that of necessity those must be used, for being the less mischievous, become the most convenient. *Thirdly*, Internal bleedings are not so apt to be accompanied with *Convulsions*, *Palsies*, &c. as are Wounds and lacerations of the nervous parts, whereby another great inconvenience in their use is taken away. *Fourthly*, Internal bleedings frequently proceed from *redundancy*, *thinness*, *sharpness*, *heat*, *fermentation*, or the like ill temper of the blood, by which it breaks through some of the smaller Vessels (and that sometimes with innocence and great advantage, as* *Bartholine* instanceth, and *Theod.* † *Kirkringius* in a Periodical *Hemoptysis*, as harmless, and healthy, as those iunary discharges from Women,) to secure which, there needs no more but to empty them by *Phlebotomy*, or cool, thicken, and sweeten the blood, as the cause may require. *Lastly*, It's very rare and unusual for internal bleedings, proceeding from, or caused by the wounding, *Rupture*, *Erosion*, *Diapedesis*, &c. of a Vein or Artery, though but a small one, to be cured by any means whatsoever, and that because they admit not of local application, the most certain, if not the only way by which they can be cured.

The second general way of stopping fluxes of blood, is by inducing an *Eschar*, or *Crust*, by which

* *Acta*
med. &
philos.
Hafniensis
num. 73.
† *Spicileg.*
Anatom.

which the bleeding mouth of the Vessel is choked; these are procured either by actual or potential *Canteries*: the manner of performing the former, is too trite and vulgar to describe, the latter is the effect of *Escarotical* applications: such are *Vitriolum ustum*, *Mercurius sublimatus corrosivus*, *Arsenicum*, *Oleum Vitrioli*, *Calcanthum*, *Calx Viva*, *Aq. fortis*, *Aq. Regis*, &c.

Before I remark on them, in their general qualifications as *Corrosives*, I shall make some reflections on those that are *Mercurially* and *Arsenically* such: I find divers Authors recommend them,* and have heard of some Practitioners that continue their use in this case, but with mortal Effects, as most notoriously appeared, *Anno* 1666. at which time, nineteen amputated men were sent to *Harwich*, out of one of the Capital Ships, and at the same time and place the like number from another; of the one died all, except one, and of the other all were cured, save that small number; this account I had from a very credible Artist, then in the Fleet: where it was generally understood, that the *Mercurial* applications had made the one so unhappy, and the contrary the other so fortunate; without doubt, that great disparity in their fates was occasioned by the venomous particles of the *Mercury* insinuated to the Vessels,

* Pet. Foresti. ob.

chyr. lib. 6.

Obsv. 36.

1. Vigo. lib.

3. tr. 1. c. 3.

Clow's.

page 135.

A. Pareus.

lib. 9. c. 7.

M. Wiseman. lib.

5. C. 2.

sels, or from its constant and vehement corrosion of the Nerves: to which *Mercury* as such, and more so, as acid, is a known Enemy.

Its true, that *precipitated Mercury* and some *mercurial waters*, prepared with *Sublimate*, are of singular good use in Ulcers: the former being of ancient practice, and at this day used as an excellent *digestive* and *mundifier* of sordid Ulcers: but the preparations of them both, doth either so explode their mortal and venenose Particles, as in the former, or dilute them as in the latter, that they cannot have those poisonous effects.

It is evident also to the reason of every man, that when Mercurial preparations are applied to the newly divided ends of those sensible parts, they more aptly insinuate their malignity, invenome their Liquors, and produce those other fatal effects mentioned, by the intolerable pain they beget, being applied to parts of such exquisite sense, even when that faculty is irritated and become exasperate by their *contusion*, *laceration*, *division*, &c.

The poisonous quality in *Sublimate*, (which was the Medicine of the above intimated Gentleman, applied to his stumps to stay the Hemorrhage) may be inconsiderable, if rightly prepared, but its corrosive salts are unmovable,

* P. 2. l. 2.
c. 10. sect.
4. &
Barth. in
Beguia.
† F. Wurtts
p. 4. c. 6.
c De uti-
lit. Philos.
Nat. part
2. Efs. 5.
cap. 8.

* The on-
ly Son of
Sir H. P.

vable, a sort of it usually brought from a-
broad, and what is sometimes made in *Eng-
land*, being done with *Arsenick* is very mor-
tal, as *Mons. * Le Febure* complains; though
there are † preparations of *Arsenick** it self,
which are safe enough and with ease ap-
plied, even to so tender a part as the *U-
rethra*, as c *Mr. Boyle* tells us, in a notable
instance. Now because a great deal of mis-
chief hath been often done by ill-prepared
Sublimate, not only in the present cases we
are discoursing of, but when internally given,
as in *Mercurius dulcis* which is prepared of
it, and crude *Mercury* [the fatal effects of
which are now cruciating an unhappy* Gentle-
man I am attending on, who receiving but six-
teen grains thereof in a purgative *Bolus*,
hath for many days, endured severe tor-
tures, and is now languishing beyond hope of
recovery.] I will communicate to my Bro-
ther the young Chirurgion a few directions,
by which he shall discover whether it be pre-
pared with *Arsenick*, or not.

Rx *Mercury sublimated* ʒj. powder it, and
throw thereon a little *oleum Tartari per de-
liquium*; If it give the Oil a blue tincture,
it's prepared with *Arsenick*, and is dangerous;
but if it give the Oil a purple tincture, it is
good and safe.

Rx *Sublimated Mercury* ʒβ. powder it, and
lay

lay it in a Silver spoon, hold it over a fire till it evaporate; if it leave a Purple spot, it's good: if any other colour, its dangerous.

It discovers it self also by the strong *Arsenical* smell, and by cleaving to your fingers: saith *M. Le Febvre ubi supra.*

To proceed, *Canteries* and *Cauticks*, considered only as they corrode, have too frequently the ill effects, hereafter to be mentioned, which though evident to every mans sense, and complained by good * *Authors*, * A. Pa-
have notwithstanding been continued with *rey. l. 9.*
strange fondness by many, who think they *c. 7. &*
can never secure an *Hemorrhage* without them. *in lib. 20.*
F. Warts

As to *actual Canteries* used in the case before us, besides the mischiefs they occasion, and that are common to them as *Escharoticks*, they have their special ones, of begetting great dread and horror in the Patient, and no less scandal to the Art and *Artists*, as is evident in the common upbraidings on that occasion, to be found in such as *Quevedo*, and the more solemnly cruel resentments of mankind against them, in the fate of *Archagathos*. Were there not milder ways of attaining the same ends, or were this infallible, it were some justification and excuse; but the contrary to both being evident, our cruelty is beyond all Apology: when a member after it hath been lacerated, and
torn

* A. Pa-
rey. l. 9.
c. 7. &
in lib. 20.
F. Warts
P. I. C. 4.
part 4.
c. 56.

torn asunder by a Canon shot, and undergone a new extirpation by the *Chyrurgeons* Knife and Saw, must be cruciated by the dreadful, often needless, frequently mischievous application of his hot Irons also, argueth us to have Lions paws as well as hearts: as if because an old saying had given us the one, we would of our selves assume the other.

It's moreover an operation of great nicity and difficult performance, especially in the hurry of Sea-fight; for if the Iron be too hot, it either brings off the *Eschat* with it, or leaves it loose; if not hot enough, it begets nothing but pain and anguish; these impeachments are so plain, that every one will excuse my Censure. I leave it to the consideration of any ingenious Men, to imagine how difficult it is to heat those dreadful Instruments to that exact degree they ought: and how dangerous when it's time to use them, to delay till they are reduced to it.

The *Summary* is this; That considering this operation to be always terrible and painful; sometimes needless, frequently mischievous, ever difficult to be done Artificially and exactly, often * *succesless*, besides the other Objections to which its liable, in common with Corrosives; and that means
more

* *S. For-*
minus, Ob. I.

more successful, more facilly performed, obnoxious to none of the ill consequences hereby, are to be had; (all which are evident,) it ought to be exploded by every one that valueth either his own reputation, that of his Art, or the good of his Patient.

I detract not hereby from the due worth of such Operations when used to their proper ends and occasions. I design only to manifest the impertinence thereof in the particular case before us, and to dehort my Brother the young Practitioner from being forward with them, in recent Wounds, Amputations, &c. the incomparable good effects of their application in other cases, where their dissuading circumstances do not exist, is known to your self, Sir, and all good Artists; and is well recounted by *Johannes de Vigo*, more principally after the extirpation of a *Cancer*, or a mortified part, where there is reason to doubt that some remains are behind, of either the malignant matter, or cadaverous flesh, as also in all venomous Wounds; but in all these, their use is not to restrain the bleeding, but to extinguish the poison and quicken the sense and life of the part, which it incomparably doth.

Having in this *Classis* considered, and rejected all actual Cauteries, and those potential ones that are so, by any Mercurial or Arsenical

Lib. 8.
cap. 15.

nical mixture: I come to examine those which in a general sense are so denominated, not having any venom in them, against the application of which to green Wounds, for stopping fluxes of blood, by inducing an *Eschar*, I have these following Objections.

First, It's a received truth, and of general belief in *Physick*, that all *Acids* are *injurious to the Nerves*. It's spoken of them as received internally. If so, after they are *diluted* by the vehicle wherein they are administered, and the Juices they circulate in, how much more so shall such potent ones be, when solely applied to them, when their tenderness and sense is irritated by wounding, &c. Now all Corrosives being so from their acid Salts: they when applied to a Wound, (suppose it the stump of a member) although with the utmost care, diligence and skill of the applier, confined to the mouths of the bleeding Vessels, shall in despite of all his endeavours to prevent it, diffuse so, that the ends of the Nerves, the *Periosteum*, and all the sensible parts shall suffer by their teeth, the effects of which will be *Pain, Convulsion, Watching, Fever, Synovia, &c.*

Secondly, It often happeneth, that when the *Eschar* they beget falleth away, the *Hemorrhage*

hemorrhage reneweth, and is then with much more difficulty restrained. Proofs hereof were endless and needless.

Thirdly, Though a *Cautery* or *Cautstick* may happily stop bleeding, it occasions a flux not much less mischievous than that of the Veins and Arteries, to wit a large * *Synovia*, or weeping of the other Vessels, which never occurreth near the degree where those sharp applications are not made. Sometimes I have seen it flow at that extravagant rate, as in a very few hours to wet the whole bandage: the menstruous expence of which *Serum* (whether it be that of the blood, *Lymphaducts*, or *Nerves*, or all) must considerably dry, enervate and dispirit. If their uses in the body, (according to *Severinus*, *Paracelsus*, *Glisson*, and *Scheunemannus*) are to humect, strengthen, convey the animal Spirits, and (as *Dr. Glisson* particularly of the *Succus Nervosum*) to nourish.

* The meaning of the word, and the controversy of the thing, is at large in *D. Sennert. de chymic. cum Arist. & Gal. consensu ac dissensu. c. 15.*

Fourthly, It often happeneth, where strong *Escaroticks* have been applied, that when the Crust hath been removed, so much of the flesh is found eroded and come away thereby, the remaining sound part also shrunk so far back, (as they most evidently do after *Canteries*) that the bone is left bare, and stands out beyond the Level: so that the Chirurgeon must either take it off anew, (a

©

thing

thing not easie to be done well) or by tedious incarnation, raise the flesh to it , the consequences of which will be an incurable *dyssepulotick* Ulcer, which also depriveth the Patient of benefit by that part of our Art, which teacheth us to supply the defects of Nature, it being difficult, if not impossible for him, to use an artificial stump or supplemental Leg, till the Ulcer be *cicatrized*.

Fifthly, The difficulty and danger of removing *Escars*, the tediousness thereof, the filthy stench and putrefaction thereby occasioned, are ills that are particular to this way of stopping the *hemorrhage* of a Wound.

The third way of restraining fluxes of blood from wounded Veins or Arteries, is by coagulating it in or about the mouths of the Vessels bleeding, whereby they are choaked; this is acquired either by local Medicines, or manual Operation: the former is done by all sweet vitriolate Medicines, such as the Aq. styptica R. &c. as also by Narcoticks and other Specificks: such are Pulv. Bufonum, Bufo Siccata, Lapis hematitis, Bole, &c. and the common applications of that nature, but they are not seldom ineffectual, either because the Vessels are large, and consequently the torrent of the blood also, which admits not of the designed effect on them,

G. Horstius. ob.
12. l. 9.
relleth us,
of the Hemorrhage
of an Artery stay'd
by laying
a bit of Opium
in the place
bleeding.

them, either by diluting the application, or washing it off, and the small coagulations it may induce before they become large, or firm enough to answer the intention; or else from the *crasis* of the blood it self, which in many habits is so *serous*, hot and thin as renders it incapable of coagulation by such weak causes: neither of these are possible when our Medicine is applyed, For *first* its being *unctuous*, will not admit its mixture with blood, wherefore it cannot be diluted thereby. *Secondly*, It's evident by experiment the fourth following, that it thickens even the *serum* of the blood, and therefore cannot fail of coagulating it, though the temperament thereof be very *serous*.

Every Artist using this Method, is so apprehensive of the uncertainty of it's effects, (especially when large Vessels are wounded) that they fear to loose or remove either Ligature, or dress, until the second or third, (sometimes not until the fourth) day, although it be lacerated Wound, whereby great putrefaction is ingendred, causing faintness, mortification of the part, or at best crudity and indigestion by extinguishing the natural heat, and destroying the *Crasis* thereof; not to mention the stench and scandalous noisom smell it usually yieldeth by rea-

S: Formi.
us, continued such a dressing 7 days without moving them.
Observ. 1.
to stay the hemorrhage of a bleeding Axillary, after Caustery, &c. had been in vain used.

son of the putrilage, nor the pain of the Ligature so long continued to retain the dressings; nor its contributing to a Gangrene or the like ills by its continual pressure, whereby the influx of the Spirits are impeded.

* *Philosoph. Transf.*
n. 94, 95,
96.

The great noise and fame of the *Royal Styptic figure* invented by *Monsieur Denys*, communicated to his *Majesty*, approved and *tryed by *Mr. Serjeant Wiseman* and others: of which *Mr. Oldenburgh* gives us a large Narrative, hath been frequently found very fallible; a considerable instance whereof is, that after the extracting a Tooth from——it could not restrain the slight flux following it; I say, the first and infant reputation of this *Gallique tincture*, and account given the Publique of its monstrous effects and success, doth for the most part oppugn what I have here alledged to disparage that way of Restriction, and would unanswerably confute it, if it were able to support its own reputation. The Medicine is rationally composed, and deserves well, but not so much applause as its Author assumed.——

The latter way of inducing this choaking Coagulation, is by manual operation; that is by the use of Buttons, Dossils, Ligature and Compress, or holding the Thumb or Finger on the

the Orifice so long, till the bloud for want of motion coagulate, all which are not without their great inconveniencies and disappointments, as to Ligature and Compress thereby. I have just now sufficiently anticipated any Objections here: you may please to remember, that *Mr. Hobbs* furnished me with an instance to the discredit of Buttons, &c. for that they sometimes bury themselves amongst the Muscles and *Eschars*, as he found once at *St. Bartholomews Hospital*, in a stump sent from Mr. ——— where those Engines which had been applied to choak the Vessels had slipt up the interstices of the Muscles, and seemed to him (when he first felt them) to be small shot; so that to a plain stump, they had the kindly accession of a sinuous Ulcer or two, contracted by their having laid there some considerable time, the member being taken off at Sea. I find complaints of this nature, and cautions thereupon given us, by *Mr.* page 304.
Woodal.

The latter way of the Finger or Thumb; is famous for the effect it had on one of the former *Princes of Orange*, of which my *Lord Bacon* gives an account. It being also used at this day to small and despicable *Hemorrhagies*: to which sort only it proveth effectual; it being difficult to imagine how

*Sylv. Sylv.
cent. I.
experim.
66.*

it should have such prosperous success on such large Vessels as are divided in the amputation of a member. It being very tedious, and while performing, the Wound must lie without dressing, open and exposed to the air; nor can it be supposed effectual in the slightest aperture; if it be but either a little deep from the skin, or of any other form except what it hath, by being divided transversely, that so the compression may be made fully and immediately upon it.

The fourth general way of stopping the Hemorrhagies of Wounds, is by the application of such things as having a clammy, glutinous, gummy, glewy or the like nature; hardneth upon, and so choaketh the Orifice of the divided Vein or Artery. Such are Rosin powdered, whites of Eggs, the hair of an Hare, Clay, all Earths, &c. I would not, if I could, detract from the worth of that famous Powder of Galens, to which so many thousands have owed their preservations. I will only say that none of those Medicines, or any other operating the same way, can endure competition with ours upon these several accounts.

They answer not the intention so suddenly; Nor so surely,

Thirdly, Nor so generally; for in small deep

deep Wounds, they do nothing to it as our Balsam doth; for if a Syringe-pipe can but enter into them to inject it, the flux is secured, as shall be anon confirmed.

Fourthly, None of them produce any other benefit to Wounds, not curable by consolidation but restraining the flux, (of which they often fail); whereas this of ours incomparably digests, &c. while it's also stopping the fluxes, as shall be more at large evinced in due place.

Fifthly, All those things, (especially the whites of Eggs and Hares hair) when applied to green Wounds and stumps: where no digestion being, no matter floweth to humect them; adhere sometimes to the very wounded flesh, always to the skin on the edges, whence they become difficult to remove without pain, and hazard of a new flux.

Sixthly, All those Dressings must be kept on long; those immediately on the Orifices of the bleeding Vessels, much longer, whereby those pernicious effects are occasioned, already said to follow the like prolix continuance of dressing to cure the bleeding of Wounds the third foregoing way.

The fifth manner of curing Hemorrhagies, is that of Ambrosius Pareus, by deligation of Lib. 10.
the cap. 3.

the Vessel: a way always tedious, often successful; and whatever vaunts the Author makes of it, it cannot be so secure as he pretends; it being liable, (sometimes from the slackness, otherwise from the too great straightness of the thred: sometimes from its smallness, cutting through, or from its weakness, giving way) to a new flux when not so tolerable to the Patient, or so easily cured by the Artist as at first; Moreover, where two Vessels or more bleed in one Wound, (which is very frequent) the one must be neglected, while the Ligation is making on the other, it being no less impossible that two Operators should be tying together at one Wound, than that one alone should do it: nor is it easie to come at the ends of the Vessels, because they forthwith retire when divided. I forbear to insist on many of those things, they being evident to every man's apprehension; nor on the tediousness of finding them, nor the difficulty in separating them from a concomitant Nerve, (where such is.) The ligation of an Artery on other accounts, as in the Toothach, Epiphora, Aneurisma, &c. is not hereby impugned.

A Sixth general Method for the stopping of the Hemorrhagies of Wounds, is by Sarcoticks, or Incarnatives: such are Aloes, Thns, Pulv.

Pubv. Astringens Galeni, &c. by which it's supposed, the mouths of the bleeding Vessels become covered and choaked with new begotten flesh; but while this new flesh is generating, they are in such daily hazard of a new flux, that they dare not meddle with their Ligature, nor dressing in a tedious while, nor much longer with that lying immediately on the mouth of the Vessel; whence it's easie to guess what incarning there is like to be, perhaps such putrefaction is contracted by the detestable continuance of one dressing, as shall constrain the Artist to pervert the course and intention of Art, by using *Mundificatives* after *Incarners*, and *Digestives* after both. I presume to tell you Sir, that I am not without reason if I affirm it a mistake in those, who suppose *Galen's Powder* doth by this way restrain a Flux; those very few things in it that are *Sarcotick*, are so saturated by the whites of Eggs, and Hares hair, that they cannot influence their Virtues, whereas they two alone without the commixture of those Powders, shall do it; where then is the Incarnation? Neither is it sense to suppose, that a doffil dipt in an Incarnative Medicine, (suppose this to be such) can beget flesh, when it's not only diluted with blood, but to operate on a
part.

part unprepared for it by digestion, &c. (which ought to precede) and when perhaps, to abide on the place six times longer, than any incarnate force remaineth in it.

I do not deny, that the protrusion of the circumjacent flesh, and the retiring of the divided Vessels, and perhaps sometimes a little Incarnation may choak and cover the ends of them which way soever the flux be restrained; but that being a *Post-fact*, cannot properly be called a stopper of blood, but a securer of blood stopt; for were it not atchieved before by the closing of the ends of the Vessels, an *extravasation* or new flux would follow; a memorable instance of which I shall relate in the thirteenth Observation, where after the bleeding had been stop'd ten days, and Incarnative Medicines to fill up the Wound had been used three; yet a strong flux broke out, without any manifest cause.

The Seventh general way of staying Hemorrhagies is by revulsion and derivation: I put them together, because their difference is very inconsiderable; and in this case are performed by one method, scil. Cups, Frictions, Ligature, and Phlebotomy.

The *First*, by being applyed to parts remote from the place bleeding, is supposed to

to give the blood a motion (by drawing it) that way; this I confess in small and internal *Hemorrhagies*, where applications are impossible to be made locally, may contribute much; but in the *Hemorrhages* which attend Wounds, being usually large, they signifie very little being such weak assistants as are seldom used, never relied on.

The *second* being made on the extreme parts remotest from the *Hemorrhage*, are supposed not only to attract the course of the blood that way, but so to enlarge and distend the Vessels, as to give them more capacity to contain a quantity, exceeding their proportion, by which the tendency of the blood towards the part wounded is not only diverted, but a great and redundant portion thereof, kept circulating in the part chafed, (especially if assisted by Ligature) while the mouth of the bleeding Vessel is securely occluded; Frictions being supposed to keep at least the due proportion of blood, to the part where it's used, (wherefore it's so much used in *Synopes* and *regurgitations* thereof on the heart); which being effected, it's easie to imagine, that the flux wheresoever it be, cannot much exceed the particular stock of the part where it is, which may be tolerable enough; because after the *Hemorrhage*
is

is secured ; it may be supplied by Detachments from the rest.

The same answer given the former, is not impertinent to this: adding withal, that Frictions, by rarifying and heating the blood, though but in one part, will yet have influence in the rest: for in despite of this supposition, it will when so heated and attenuated, mix with the Mass, and not a little administer that quality thereunto ; whereby instead of impeding, it will considerably inhaunce the *Hemorrhage*.

The *third*, being made in the extreme and remote parts also ; retains the blood there , and compressing the Veins more than the Arteries wholly impedes the return thereof: and yet admits (as far as the spring of the blood is able to propel, and the capacity of the Vessels to contain) a greater quantity than is proportioned ; this is evident , on Ligature made for *Phlebotomy*, and the repletion of the Vessels upon it, whence the blood is at once derived, revelled and fixed, and indeed a flux many times, if not wholly stayed, yet considerably rebated thereby, whence it becomes easie to stop by local applications ; somewhat also is attributed to the pain caused by Ligature , which is supposed to attract (as they all do) to the place where they are made, and so derive the

the blood from the part bleeding, as hath been often tryed, by painful tying the little Finger only, in an *Hemorrhage* of the Nose; an other besides this sort of Ligature, is made also in Amputations to stay the flux, which may not be improper here to take notice of; for although (besides some other uses not pertinent to our present enquiry,) they seem to design only, to hinder the deflux of the blood to the part; yet they thereby also revel, by so turning its course another way, and thus all those made immediately above the place of *Excision*; and those made remotely above that are advantageous, some men (and not amiss) using always three Ligatures in Amputation, one on each side the division, the other as far above it as the place will admit.

I allow the Reason and use of all these Ligatures, and except against nothing they design; but that they are but partial ways, being unable alone, and of themselves to cure, (though they for the present stop) an *Hemorrhage*, not being to continue without great hazard. (I once saw in an hasty Amputation the Ligature left on, which begat such horrible symptoms, as cost the Patients life) there being also necessity to slacken them when your dress is in hand, that

that you may by the flux see where the ends of the bleeding Vessels are, and dispose of your applications accordingly.

Sir, I hope it will not be altogether impertinent, if I here take occasion to recommend to the young Practitioner, one way of Ligature very useful in Amputations, especially above the Knee; that is to say, a wadd of hard linnen cloth, or the like, inside the Thigh a little below the *Inguen*, then passing a Towel round the member; knit the ends of it together, and with a Battoon, a Bedstaff, or the like; twist it, till it compress the Wadd or Boulster so very strait on the crural Vessel, that (the circulation being stopped in them,) their bleeding when divided by the Excision, shall be scarce large enough to let him see where to apply his Restrictives, nor shall the pain of that Operation be comparable to what it would be, were not the member nummed by the Compress. Yet I would direct him in all Constrictions, whether by gripe, narrow Ligature, or this we recommend, to slacken it a little before the application of his Dress, the better to find by their bleeding where his care and applications are most needful; for want of this necessary Caution, poor Patients do often lose much blood unknown to the Chirurgion, it ha-
ving

ving lain conceal'd within the encompassing bladder: nor is inartificial Ligature, and many thick pledgets and boulders of less inconveincy and mischief; for that they often imbibe the extravasate blood, concealing many large expences thereof.

As to *Phlebotomy*, the last mentioned way of Revulsion and Derivation; it's also to be made on the remotest part from that bleeding, by which it's supposed to give the blood a motion that way, and so derives its course from the part wounded, and by emptying the Vessels, slackens and rebates its efflux, from those that are hurt. This doth eminently contribute even in fluxes from Wounds, where there is a *Plethora ad vasa*, a repletion of the Vessels, and is incomparably useful in *Hemorrhagies* from internal Ruptures, penetrating Wounds, *Hæmoptysis*, *Hemorrhagies* from the Nose, *hemorrhoidal Veins* or *Womb*, &c. but in any other circumstances it's so far from being serviceable, that it begets mischief, and answers not the chief end and design of its use, no revulsion how plenary soever, being of its self (without local application) able to stop a flux from a wounded Vessel.

So that briefly, it's always but a partial, sometimes a needless, often a mischevous way; the *first*, because it only assists; the *second*,

second, when need to temperate Constitutions; the *third*, because it hinders digestion, I mean in great Wounds, and moderate habits; but in bodies very plethorick, that have not bled sufficiently at the Wound, whence the symptomatical Fever may become so high, as to beget a *Phrensy*, *Delirium*, *Hemorrhage*, &c. or that from some manner or circumstance of the Wound (as large Contusion, Laceration, Fracture, Puncture, &c.) there be hazard of a *Gangrene*. It's very advantageous, excepting to such as are caused by a poisonous Weapon or venomous bite, in which *Phlebotomy* is pernicious; for though it be for the most part an enemy to maturation, by rebating that heat which should concoct the matter: yet in such extraordinary cases, where there is more matter than nature can overcome and digest, or that because of the plenitude of blood, and vigorous spirits (which when agitated in this work, would kindle and combust.) there would be danger of a too violent Fever, and other ill effects of the perturbation; It hath been found, that the drawing off some thereby hath facilitated the work; but other ways, and most commonly bleeding retards it, as is evident from the design thereof, when used after Contusions, in *Ecchymosis*, *incipient Phlegmons*, &c. *viz.* to prevent their *Apostumation*. Of

River. lib.
17. sect. 3.
c. 1.

Of this, amongst the forein Chirurge-
ons which in my Travels I have conversed
with, viz. *French, Hollanders, Portuguez,*
Spaniard, Italian, and Germans: the latter
only have had the discretion to be sensible,
and so highly are they so, that they will
scarcely allow of *vena section*, though very
urgent symptomes that might be remedied
thereby, have called for it.

It will be no impertinent digression, if I
inlarge this part of my Discourse, by taking
notice of, and reproving another design
hereof in Wounds, and that is the curing
or preventing the symptomatical Fevers at-
tending them, against which practice I ob-
ject this *Dilemma*, That it either faileth
of performing that intention, or by doing
it, quite hinders and destroys Digestion,
which being ever procured with a Fever,
(as I have already suggested and proved)
he that bleeds till that be taken away, must
do it till all the bloud be extracted; this
is manifest to any Artist, that hath observed
how those wounds from which so incredible a
quantity of bloud hath been shed, as would
tempt a man to believe it impossible for
the flame of a Fever to find any fuel, have
yet had that inevitable accident whilst di-
gestion hath been performing; this hath
been often evident to me, particularly in
D the

the cases to be mentioned in the Seventh and Ninth Observation, concluding this Discourse: in both which, though the expence of blood was monstrously great, yet a very brisk Fever accompanied them, though the former by reason of his internal Wounds had been phlebotomized, and received several of the following draughts: *R. Crystal. minerale 3 j. Syr. Symphyt. 3 iß. Aq. Sperm. R. Plant. Scabiosa. Papav. Rh. ana 3 j. misce.* Hence it's evident *Phlebotomy* cannot hinder the Fever; that it impedes Digestion, hath been already made good from the use and end of it, in *Phlegmons, in fieri, &c.*

* Those are *Aven-
zoar, Fra-
castorius,
Helmont,
Angelus,
Sala,
Mich.
Febr. Lan-
gius, Den-
singius,
Rolsinkius,
and of
our own
Countrey-
men.
Dr. T. Sy-
denham,
Dr. Tob.
Whitaker,
p. 27, &c.
M. N. Mc-*

Let me further illustrate all this, by comparison with the Small Pox, meerly putrid; in which *Phlebotomy* is so much decried, not only by the vulgar and illiterate, but by the men of Degree and Books: the one from fact and the frequent unsuccessfulness thereof, the other from reasons in Physick, among which what I have here alledged against it's use in Wound-Fevers, is not the least.

del. Med. p. 408. G. Tomson, cap. 7. Nor is D. Willis so fond of it, if his Discourse be considered, c. 15. de Feb. Sanguinis missio, si plethora adsit, — circa missionem sanguinis instante variolarum eruptione, valde ambigitur. Of the same cautious opinion is Dr. Sennertus de feb. l. 4. c. 12, and Riverius, lib. 17. sect. 3. c. 2.

I am not insensible of the many Authors, that by Advice direct, and by Observation confirm the benefit or harmlesness thereof. But it's rarely found so saving in hot Countreys, Flagrant Constitutions, Plethorick Bodies, (in all which the coctive heat is not weakned thereby; and yet the extravagance of the matters quantity rebated, by which it is sooner, and with more ease digested) and in all these e're coction began, it being equally hazardous, and unsafe to bleed in a digesting Wound, in a suppurating *Plegmon*, (that is large,) and in the *Variolæ* that are cocting, and disposed to extrusion, except in the unusual, and extraordinary circumstances above-mentioned.

The Fever accompanying the incipient *Variolæ*, or Small Pox beginning, is symptomatical and necessary, and the *Delirium* that is sometimes thereby occasioned, very harmless, and what they soon recover when the matter is ripened and thrust out; wherefore the most prudent and successful Method I ever found, (having been concerned in many of that Disease) and that is practised by prosperous Women, are considerably hot: such are *Sack*, and *Saffron*, *Treacle-water*, *Mithridate*, *Venice Treacle*, *Aqua Epidemica*, *decoctions of Rue*, *Figs and Cochianel*, *Bezoar*, &c. whereby the Fever is inhaun-

See Mr. Stubbs against Tomson, where you have them quoted and urged at large from page 172, to page 258. Vide Dr. Willis, loc. cit. & ubi dicit—
—interim cautio sit, ne fermentationis seu effervescentie opus ullatenus cohibeatur, —
& River. ubi Supra.

* This,
cum grano
Salis.

fed; but the Coction quickned and dispatch'd: which when they find, and that the Pox appear well out, and the Fever decline, they abandon hot things, and use such as are altogether temperate, having thereby framed and settled to themselves this Rule, till the Pox are well out, you cannot use any thing too hot, nor afterwards things too * cold. This is evident, that very few die of the Initial Fever, or any symptome concomitant with the Coction, except Phlebotomy have perverted the intention and design of Nature, by checking the Coction, or disturbing the course they were in for expulsion.

This I speak, allowing still the reason for bleeding in the former respects and considerations, and do apply the whole to Practice, in the case before us, *viz.* the digestion, *i. e.* the maturation of Wounds: there being an identity in the Reasons and Circumstances. Therefore in temperate Constitutions, a due quantity and quality of blood, I am so far from bleeding, or giving cool things, though symptoms have been brisk, and seemed to call for it, that I have administred, as well as applied Digestions, (all which are hot) whereby assisting Nature to overcome and coct the matter, I have sooner than usual took off the

the Fever, dispatched the Digestion, and prevented the expence of much of my Patients blood, spirits and strength.

The eighth and last general way of stopping the Hemorrhagies of Wounds, is by closing the Orifices of the Vessels and uniting them. This is supposed to be done by all mild *Vitriolates aluminous*, and some Styptick, conglutinating Applications, who from their asperity, driness and moderate sharpness, shrink up the coats, and by that means constipate the bleeding Vessel; D. W. Needham, and M. Serjeant Wiseman, seem to affirm this done by the *Aq. Styptica* R. as appears Num. 95. in their Narratives, published in Mr. Oldenburgh's *Philosophical Transactions*: but whether they supposed it only, (their enquiry being whether, not how it stop'd the bleeding) or delivered it on certain knowledge, is what I cannot determine from the expressions made use of: nor whether any such effect have been produced by any other Medicine save my own, which will be my next work to discover.

Thus, Sir, I have finished, and examined all the common ways of stopping bleeding: pardon my vanity, if I think I have shewed manifestly, that in many respects, they are most of them precarious and uncertain. whatever credit, long continuance, &c.

may have purchased for them. This I have attempted, not out of design the better to establish my own, (a practice common with Innovators,) but on the sincere suggestions of Reason, Experience and Authority, by all which every of my crinations are supported.

There is another way very improperly computed by *A. Pareus*, and *Dr. Read*, amongst those of stopping the *Hemorrhagies* of Wounds, which is by dividing the bleeding Vessel, that its ends shrinking up between the muscles, &c. may become choaked: but were this true, we should behold its effects in Amputations, and have no flux in those Wounds that divide the Arteries or Veins; but the contrary being evident, I have reason to slight it, as being also impracticable, and of no general application, or use.

And now methinks I find my self accosted by the Critick, with this question; If these are all the ways of stopping *Hemorrhagies*, and that all of them are thus defective, and liable to so many ill consequences: how comes it that so many large Fluxes are frequently restrained without the assistance of any other Method, or Medicament?

My Answer is contained in the following
con-

considerations : That those ways here objected against, though they have stop'd *Hemorrhagies*, have not done it with that benignity and certainty as ours doth ; for that great expences of blood have been made, e're it hath been perfected.

Many men have died of the symptomes and effects, not only of the loss of the blood, but those ill applications, though they have not been noted, or observed as the causes.

I have no where affirmed them to be generally and in all respects fallible, that most of them have failed in large fluxes, is a known truth ; that I never found mine so uncertain, but that I might rely thereon, (which can never be said of the rest,) is not a little sure to me. Now on these respects, though I have preferred my own, I have not so far disparaged theirs, as to deny them wholly destitute of power to stay many *Hemorrhagies* : nor should I my self decline them, where I were denied my own ; that man were certainly mad, that would rather be naked, than put on cloths much worn, or old fashioned ; things are every day improved, and more accommodated to our conveniency ; the advantage of the latter, though it exceed and depreciate, doth not altogether invalidate and

make impracticable the former. The old way of Navigation, was to coast on the shoar, whereby a Voiage to *Morlaix* from hence, became at least an hundred and fifty Leagues; but the Modern and improved way, by the advantage of the Compass, shortens it by at least six score: he were certainly a ridiculous Mariner that would slight that advantage, and he no less that being ignorant of its use, or in impossibility of having the benefit thereof, would decline his Voyage, rather than pursue it the old way.

My Second general Undertaking, was to shew the way how I conceive, our Balsam so suddenly, and sometimes without Ligature, secures Hemorrhagies. In order to which I shall first relate divers Observations and Experiments made of *Olenm Terebinthine*, and humane blood, and the various Phenomena thereof, and then from thence deduce proofs for which I shall presume in this Particular.

Experiment I.

Take Oil of Turpentine; heat it, and spread it on a planed board, or other Timber; the subtil volatile parts thereof: some exhale, others insinuate thereinto, leaving the gummy resinous fixed part behind, which becomes a very firm, tough and adhering integument, and is commonly called *Varnish*, being

ing so used, to keep the wood from corrupting by the Air, or from Worms: Painters for that reason also tempering their Colours therewith, especially the brighter ones; for then though not heated, it soon hardeneth, as doth Lin-seed Oil, and without becoming yellowish, as that doth.

Dip your little Finger (first washed clean, and dried) in reeking blood of an Artery; and then in hot Oil of *Terebinth*. and they shall soon become like a tough skin, or covering thereunto: so contracting or shrinking, as to beget a sensible griping or straitness thereon, and will not easily remove without Oil, or some unctuous body. Experiment II.

Lay a drop, two, or three of hot Oil of *Turpentine* on a polished Marble, or piece of clean smooth glass, and the spirituous volatile parts (of which it mostly consists) evaporating away, the remainder having at first expanded it self, doth now manifestly shrink up: and (having at first application, by insinuating to the little insensible Cavities thereof, a firm hold) endeavours as it were to contract it self, and the substance to which adhereth; but its stubbornness will not yield to so weak a spring, but in fine cloth and such pliable matter, it evidently effects it; the reason hereof is very plain, its heat makes it more subtil and penetrating, Experiment III.

ting, by which its rarified parts get in and fasten themselves to the matter on which it lieth, and by that heat gently exhaling its volatile parts, which being the most of its quantity, the more tough and gummy remains, endeavour to contract, to supply the evaporations of their finer particles: in which attempt, being in their circumference fastned firmly (as all resinous bodies aptly are) to the matter on which they lodg, they contract that also, if it be soft and flexible enough to yield to that action.

Experi-
ment IV.

Heat an ounce of *Oleum Terebinthine*, in a bloud-porringer that would hold three ounces: let a Vein, or an Artery bleed it full, and you shall find the bloud instantly to coagulate, not a loose frangible crudling as Acids produce therein; but a more tough, fast, and as it were gummy condensation; let it stand a while, and the Oil shall all of it separate and superside: the longer it stands, the harder the bloud grows, especially the Surface, which will become very tough. This Experiment I made many times: and (which is very remarkable) always found it without any *Serum*, though the rest of the bloud drawn simply, and set to cool in other Porringers, did abound therewith: now view this condensed blood by a Microscope, and it appears
very

very firm, compact, close and opaque; but the other, though severed from it's Serum, shews thin, and almost translucent; that crudled by a solution of *Vitriol*, looks like a heap of loose black dirt, or gravel: the former only resembling black Pitch, by which that it's fittest for the performance, we shall by and by discover.

After the blood so condensed hath stood two hours or thereabouts with the Oil upon it; the surface of the blood becomes whitish, view this also through the Glasses, and you will find there to be a number of light spots, on the rim thereof, having various shapes and figures, neither round, square, nor regular. I endeavoured to move it with a Needle, whilst mine eye was on it through the Tube, by which I discovered it to be a colour of the superficial blood, not any milky separate matter, as I apprehended.

Experiment V.

At the same time, thrusting the point of the Needle through the Surface, and lifting it up, to see how far that whitishness continued, beyond the rim of the blood; I found it no deeper than the upper skin: but what was very observable, the Needle though fine pointed: when I lifted up the Surface therewith, came not through it by one division thereof, as it did in other

Experiment VI.

coa-

coagulations; but forcing up the hardned superficies, it broke at some distance round about it, so that a flap was thereby made like a Trap-door, or a Valve: which upon withdrawing my Needle, fell into its place again: A clear proof of its being very firm and tough.

Experi-
ment VII.

This coagulated bloud, made so by Oil of *Turpentine*, is a most incomparable Balsam, to heal Wounds by Consolidation, or to digest and incarn those that require it. It's known that internal Wounds and Ulcers, being incapable of local application, are cured by vulnerary Dyets; which, say the Learned, is by hightning and improving the Balsam of the bloud. Now to make it a good Topical Balsam, I think nothing exceeds the celebrated Oil of ours: as any one that will experiment it, may easily assure himself: for though there be no sensible commixture; yet after the subsiding bloud is freed from the Oil swimming a top of it: yet by the smell it appears considerably impregnated therewith.

Sir, I want leisure to make other trials, necessary to a full discovery, and solution the Question, how this Medicine stops *Hemorrhagies* of Wounds. Those here given you, are all I have been able to make, since your Commands have been upon me:
there

there are a few more, which I would recommend to the examination of the Curious; and which I shall attempt, as I have opportunity, and give you account of the success.

First, I would try whether hot *Oleum Terebinthinæ* doth not sensibly occlude the aperture of an Artery, or Vein, by taking the *Crunal*, or *Carotid* ones of a Dog, and making Ligature on the further part, would there divide it, and draw out the untied end as far as it would come, stopping its bleeding, by a comprels of my Thumb and Finger: and so dip it in the hot Oil, slackning my compressure to let some of the blood flow: after which totally stopping it for a time would then repeat the tryal, till I found how long after its immersion therein, it would be, before it so firmly closeth, as of it self to retain the blood. I would then also examine, whether any Union were confirmed; how long it's a doing; whether the blood coagulate within the Orifice; and by so oppilating it, contribute to the stay of the *Hemorrhage*. I would also in one day amputate the Thighs of many Animals of one species, and bind them up with dressing of *Oleum Terebinthinæ*: every day afterwards, I would examine (even so exactly as with a *Microscope*) how
Nature

Nature works, what she is doing, and hath done, in the several parts of that time to the divided Vessels, to secure their flowing.

I would also by Punctures, oblique, and transverse incisions of the Arteries; and which is worst, by tonging them as boys do Reeds, to make musick with: try if if they would not be closed by this Oil; how it's effected with the different ways and steps Nature takes to atchieve it; these I would recommend to the men of leisure and Curiosity; as also the re-examination of those tryals I have made, desiring them, if in one or more, they find not all things to agree with my account, they would repeat them, considering they may sometimes fail, by reason of a different crasis in the blood, from some fault in the Oil, or some other unknown occasion, (perhaps his own perfunctory attempts) with this patience and Ingenuity, Mr. Boyle tried some such related Experiments of the Lord Bacon, and Sir Thomas Brown; and though after divers repetitions he found they did not succeed, yet at last had his expectations gratified.

From all the aforesaid appearances, it seems probable to me, that our Balsam doth thus restrain Hemorrhagies; first on its application, it contracts the bleeding Orifices:
Exper.

Essay the
second, of
unsuccessful Experiments,
page 107.
Edit. 2.

Exper. second and third, begetting also that firm Coagulation of the blood, *Exper.* first and fourth, and that not externally only, but internally also; by the former it constipates, by the latter it chokes and oppilates them: that externally assisting also to the griping the end, or aperture of the bleeding Vessel, and thereby strengthens the occlusion, the blood being unable to penetrate it, by *Exp.* the seventh; it's probable the *Coagulum* healeth up the Orifice of the bleeding Vein or Artery, either by uniting the Coat, or by Concrnation, *i. e.* begetting some intermediate substance, which it will nimbly do, being internally and externally lodged upon it.

This, Sir, is the best Mechanical account I can give, or apprehend of the matter. I hope by future tryals of my own, or some more intuitive Experimentators, I may be confirmed in this opinion concerning it; or that a truer solution thereof (if such can be) will be dilucidated.

Whether the actual heat of the Medicine, may not contribute especially to the shriveling the wounded Vessel, is to me no doubtful question; having found on the cold application thereof, those effects were not produced: from whence I would also infer, that the first mentioned Experiments operated

operated on the bleeding Vessels, according to my Explication of them, since without the actual heat necessary to cause those *Phænomena*, the blood is not stayed; *Ergo*, it must be stopped either by the immediate effect of its actual heat, or those mediate ones, related in the first Experiments: or (as I am inclined to believe) by a concurrence of both.

* Lib. 8.
de Simp.
med. fac-
cult.
† Lib. 1.
cap. 72.

Whether the adstringing quality, ascribed to the *Turpentine tree*, by * *Galen*, † *Dioscorides*, *Laguna*, *Gerard*, &c. *Cortex*, *folia*, & *fructus ejus*, *adstringunt*, have here any juvancy, I know not. There seems to be a *stypticity* in the Oil it self, when rubbed between the Fingers: of what use here I leave to other Judgments.

If the whiteness appearing, *Experiment 5.* be a tendency of the blood to maturation, it's a strong evidence of the digestive faculty of our Balsam.

My third general design; is to give some directions to be observed in the choice and use of this Medicine. As to the former, I am to acquaint my Brother Chirurgeon; that there is no essential, though there be a reputed difference, between what is called by some the *Spirit*, and by others, the *Oil of Terebinth*; they being names promiscuously given to one and the same kinds
of

of thing, when in reality they are * all Oils, as is evident by their swimming on water, wherewith they will also commix upon shaking together in a Phial, and sever again upon standing a while, as in the *Aq. Ganorrhœa Quercetani*; the first running in the distilling Turpentine being a thin limpid spirit, induced * *Beguinus* and † *Sennertus*, so to denominate it; but our Colledge more truly, *Oleum tenue & album, instar aquæ*; the *Augustans* and * *Ernestus*, the white Oil, and † *Mons. Glassier*, the Æthereal Oil of *Terebinth*.

But though they are all Oils; they are not all alike so: for when distilled according to the way of the *Augustan* Dispensatory, and that directed by *Glassier ubi supra*, * *Beguinus*, *Euxonymus*, † *Philatrus*, *Ernestus*, (which is R. *Terebinthinæ pellucidæ quantum volueris, distilletur lento igne per retortam s.a.*) there comes first *Oleum Album*, *ad quod sequitur flavum, & ultimo rubrum*--- but when done according to our *Pharmacopœa*, *Sennertus* * *institut*. And one way of *Ernestus*, by putting four times its quantity of water into the Alembick therewith; there cometh little other than this white Oil; the former is questionless the best way, (only incident to *Empyrœumat*.) and the last red Oil coming thereby, the

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chiefest

* See Mr. *Febvre*, part. 2. lib. 2. sect. 1c. cap. 19.

* *Tyro.* chym. lib. 2. c. 4. † *Instit.* Med. lib. 5. part. 3. sect. 3. c. 5. * *De oleis* chym. distil.

† *Comp.* Chym. f. 2. c. 7. * *Tyro.* Chym. l. 2. c. 6. † *Thesaurus*, page 314.

* *ubi supra*.

chiefeft for our purpofe; next to it is the yellow, and where neither is to be had, the oldeft white Oil is to be preferred, becaufe its fiery particles are fpent, and evaporate in age, efpecially if not clofe ftopped, or have been often opened; the *Empyreuma*, if any be in either of them, is no impediment to, but promotes its constringency, though perhaps it may hinder its digeftive influences.

Yet in aged cold phlegmatick bodies, and parts mortified by the expence, or defect of vital heat, I fhould prefer the firft and moft fpirituous white Oil, which is that moft commonly fold by the Druggift, though in hot flagrant Conftitutions abounding with Choler, heat, and fharpnefs of the bloud, I fhould chufe the other, as being more balſamous, and lefs biting, and hot.

I have ſome reaſon to doubt, that the Chymiſts do often abuſe us, in the Oil commonly fold us for a leſſer price by far than the *Terebinth*, from which it ought to be drawn: there is a baſe *Turpentine*-like ſubſtance called commonly *Terebinth*, brought from *France*, drawn from the Fir and other Trees, much uſed to this purpoſe, which is no more the gum of the *Turpentine* tree, than Tar is. It were to be wiſhed, care were uſed to prevent thoſe great abuſes in
Chymical

Chymical preparations, the publick Elaboratory, new set up by the Apothecaries Company in *London*, is a design of great utility and publick advantage, which may in time secure us such Medicines as may be relied on.

The Directions necessary to be regarded, and followed in the use of this Medicine, to Wounds, please to receive thus promiscuously, as they occur to my memory.

And *first*; I must not forget to tell you, that it ought to be very hot, and more, or less so, according to the urgency of the flux, the temper of the Patient, the quickness or flatness of the Spirits, and native heat of the part; and because in heating it, it is very apt to flame, and when so, is difficultly extinguished. I always in Amputations or large Wounds, have two Vessels with the Oil in them, ready heated; that if one kindle, the other may serve. I do also heat it on glowing coals, that have no flame, and in a broad deep Vessel, that may sufficiently intercept the force of the fire, from kindling the exhaling spirits.

This circumstance, Sir, seems to render it difficult, if not impossible to be used in the great fights at Sea; partly from the hazard and inconvenience of fire; partly from the tediousness of heating it, and the aptness

to flame, while so heating, which would be very perilous; to remedy, and prevent all which, I have considered of a very effectual way: which is to have a Copper Vessel, with a long neck, flat bottom, and a narrow mouth, like a chymical Matrafs, or Bolts-head, to which I would have, either a close stopper, or a Cover, so exactly fitted, that the spirituous parts of the Oil should not by continual heat evaporate away; this would be kept in due heat by a very little fire, not more than is necessary to heat Cauterizers, and without any danger of flaming; nor would its continuance on the fire, rebate its vertue; for by the Vessels being closed, as I have said, the Spirits and evaporative parts, would only circulate therein. Some few of the more volatile would be spent upon every opening it, which however might not be inconvenient, since by discharge, the Medicine is not so potentially hot, and thereby fitter for recent simple Wounds: by this means having it always ready, it's but to pour a necessary quantity into a Porringer or other convenient Vessel, at the time you are ready to use it: the different particular ways of which I forbear here to recite, because in the Histories or Observations, they will be sufficiently related.

There

There are two necessary Concomitants, when our Medicine is used, to restrain a flux: they are Ligature, and an encompassing Defensative, *ex bolo*, &c. and moistning the bandage in *Posca*. This I speak with respect to Amputations, or great Wounds: in which it cannot be imagined, that without the former to compress, retain and continue the Applications, a due and necessary time, the work can be effected, or the wound preserved from accidents without the latter: more especially, I would direct to deligation of the member, to be amputated according as I have already said; that the greatness of the flux being impeded thereby, might not dilute the Medicine before it can perform its intention, or come intirely on the part bleeding, to restrain it: for which end, there rarely appears any occasion to use it more than once: for any other design, as the quickning the sense of a part, reviving benumbed *Paralytick Nerves*: it may be used oftner, as also to quicken dull digestion; but then I suppose it best, to mix it with other temperate things of the like quality; as *Linimentum Arcei*, *Unguent. Basilicon*, *Ol. Hypericonis*, *Lumbricorum*, *Catulor.* &c. except a flux of bloud, or *Synovia*, require its intire application.

Which may be indifferently made to all

E 3

parts:

parts: those near, the Eyes only excepted; for it's of so diffusive and insinuating a quality, that if applied near them, it will work in and occasion much pain and inflammation, wherefore in Wounds about the forehead, great care ought to be to prevent its descent thither. I once saw much pain and trouble thereby unluckily alighting upon a cholerick person, to whom these, as all other hot applications, are very uneasie.

Though I never had occasion but once, to employ it by way of dressing to the breast; yet cannot find any reason in my own judgment, or that observation to dissuade me therefrom, if the aforesaid occasions needed it. What seems to render it unsafe to that part (I speak of penetrating Wounds thereof) is its heat or bitterness; on account of the former, where a *Pleurizy*, *Peripneumonia*, or the like is concomitant, it ought to be forborn; but this is so rare a Congress, that I think scarce in a man's time, shall it occur to him in practice; its bitterness is so very inconsiderable, that from thence cannot any Argument be drawn to deter from its application, where need requires such a Medicine; and not a better grounded Objection appears to oppose it. I am sure it's a very considerable * *Pulmonick*, commended by † *Dr.*

* *Charac.*
Pharm.R.
 part 3.
 sect. 1.
 c. 42.

† *Dr. Willis*, in *Phthisis*, and by *c Beguinus*, in Coughs, *Orthopnœa*, &c. Curing also Ulcers in the Lungs: on all which accounts it's made the *Menstruum* of the common *Balsamum Sulphuris*, and the *Balsamum Antihæctica* of *Paracelsus*. I have also in penetrating wounds of the Breast, given divers times, some drops thereof in a proper Vehicle, by which I have evacuated much matter by Urine, bettered the digestion of my Wound, and rebated the conflux of humors, by deriving them diuretically. *Dilatat pectus, & abstergit, & per urinam* (quod maxime in hoc casu competit) *promovet*, —saith *Schroderus* of a preparation of *Turpentine*.

† *Pharm. Rationalis.*
part. 2.
sect. 1.
cap. 6.
c Tyroc.
Chym. l. 2.
c. 4.

In Concil. Wittichii.
Conf. 30.

If the Vessel bleeding be large, and the flux impetuous, as the *Crruals* when Amputation is made above the knee: then I lay large buttons of Tow dip'd therein on the ends of them. In most other Stumps, I leave all to a large Pledget or two, of a reasonable thickness, which being immersed in the same, and applied over all, I lay one or more of the like Pledgets, armed with the common restrictive of *Bole*, &c. together with bladder and bandages, moist with water and Vinegar.

In Stabs and narrow Wounds, penetrating the fleshy parts of the Thigh, Leg, Arms, &c.

E 4

where

where by reason of a Vein or Artery hurt, a great *Hemorrhage* ensueth. I would inject my *Oleum Terebinthinæ* made duly hot, till the whole Cavity were replete therewith, and there retain it, by stopping the Orifice or Orifices with my hands a few hours, by which it would become undoubtedly secured.

I have sometimes the next day after this Medicine of ours hath been applied, found the edges of the Wounds and Stumps blistered as far as the Pledgets have extended, the bladders of which have been filled with a milky matter; the cause thereof I always found to be, the too hot application of the Medicine, when haste hath prevented consideration, and occasioned its being so applied; and to a person of a very hot constitution, the white matter filling those little vesications, though thin, is the strong digestive effect of its cause. I never much regarded them, other than to snip them with my Scissors, and lay on it a little *Unguent. Album Camphoratum*, which drieth them by the next day; wherefore those to whom the appearance may be strange and surprizing, have no reason to be discouraged thereat, or afraid to use the Medicine after this intimation; nor to apprehend it gangrenous, as one lately did, and used a *Li-*

xivium

xivium to cure it, though he were no stranger to the use of the Oil, to this end. Other ill effects I have scarce found, (except the symptoms in the last observation were such;) but that those Wounds to which I have applied it, have been as easie as my others, to which I had not used it.

Lastly, To amplify and perfect one Period, which upon a review I find defective, I must inculcate my direction, that where digestion, more than constriction is designed, and in all young hot cholerick Constitutions, I prefer the oldest thickest Oil, and which smells least; but where a strong coagulation is necessary, because a large Vessel is hurt, or where a *venene gangrenous Sanies* is to be corrected, and absorbed, where the part is afflicted with a cold distemperature, *Convulsion*, *Palsey*, *Insensibility*, and of debilitated heat, then the thinnest and most spirituous.

The strong smelling Oil is the most pertinent. These warm productions of this Balsam, seem liable to an Objection, which you shall find made, and answered in the conclusion of the last Observation.

The restraining *hemorrhagies* of Wounds, was what principally occasioned this recommendation of *Oleum Terebinthinae*: I will now, Sir, endeavour to illustrate its
Vertues

Vertues for Wounds, in a more generous sense, by enquiring into the many other benefits acquired by it, without respect to their bleeding, and this was the *fourth* task I laid upon my self.

The first of which, is the stopping of the Synovia, or weeping of the divided Nerves and Lympheducts, which it doth by constipating their little apertures. I believe no man that hath conversed with Wounds, and corroding applications to them, but hath found a large gleet to flow from Wounds of magnitude and amputated Stumps; and the more the nearer to the Joint, the former being the lacrymation of the lymphatick Vessels and Nerves, the latter, the efflux of the Joint Serum: and both of them sometimes to that degree as to wet the bandage, though large, and the pillow on which the member may rest, as much as if a quart of water or more had been thrown thereon. It were too large and beyond the bounds, both of my brains and Letter, to discourse either of the Controversies, whether there be a Liquor, and of what use both it, and the Lympha is; let it suffice to suggest, that a great and famous Physician of our own, namely, the ever memorable Dr. Glisson, affirms the former to nourish; and all agree, that it's the Vehicle, in which the sensitive spirits

Against
which Is-
brandus,
Demerbro-
cus; Ana-
tom. corp.
human.
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puteth at
large.

spirits are conveyed, to furnish the parts with motion and sense, (or as one ingeniously calleth it, The Chariot of the sensitive Soul ;) and that the Lymphatick * Juice, humects, contemperates, &c. Now being of uses so essential to the subsistence of life, these consequences do naturally flow ; that the expence thereof, doth privatively dispirit, consume, debilitate, dry, inflame, &c. and therefore that the securing it from so exorbitant a profluence, is as necessary and beneficial, as the restraining the Hemorrhages of the Veins and Arteries ; and this I will presume to aver, is a faculty in Oil of Turpentine, transcendently above any other known Medicine, as is more especially evident, in punctures of the Nerves, (where the weeping of that Juice, as that of a Vine when wounded, or Trees when tapped in the Spring, is very obvious and plain.) For the cure of which, it is become the infallible *Arcanum* ; when as before the discovery of that Vertue, the remedy of Punctures, was no better than either dividing the Nerve or tendon, or severing the member from the body, both which were not seldom prevented by Death.

* Idem
in lib. I.

A. Pareus,
l. 10. c. 38.
Fr. Sylvius de le
Boe, nova
Idea:
part I. cap.
42. parag.
38.

Secondly, It most excellently digests : a faculty to which no other restrainer of bleeding can pretend ; and if both those intentions

tions can be performed at once by one single Medicine, (as they are evidently by this) how much time, pains, &c. is saved to the Practitioner and Patient, and consequently what value it is of, there needs no Argument to confirm this Position, it's so easie an Experiment, that every one may confirm it to his own sense; nor doth it digest Wounds at the ill rate, most other Digestives do, which besides that faculty, do also powerfully attract; such are *Crocus Terebinth. Vitel. ovor. Liniment. Arcei, Basilicon*, &c. whereby great expence of blood and radical moisture is occasioned to the wasting the body, impairing the strength, hindring the healing influences of the Medicine, macerating the wounded flesh, begetting *Fungus's*, &c. whereas this excellent Oil hinders the deflux of humors, digesting the contused or extravasate blood, without drawing, or permitting the efflux of much more.

Here, Sir, I must take notice of two Objections to which this seems liable: That if *Oleum Terebinthinæ* close the mouths of the Vessels, how can it digest, it being a Faculty inconsistent with that of Constrictants? or what should it digest, since by its application, little or no matter extravasates for that faculty to work on? To this

this I reply, That though there be not such large digestion, as is usually produced by the aforefaid applications, yet it doth maturate in a lesser degree, what part of the bloud, *Lympha*, &c. may be shed before application can be made; it being impossible to imagine, that the most quick and diligent application thereof, can so prevent the efflux, but that some will get between the Dressings and the Wound, which coagulating about the mouths of the Vessels, by capping; secures them; or it may be supplied with matter for the digestive faculty to work on, from the lacerated and frequently mortified Fibres, or from what even in sound members, and a healthful body, is by transcolation extravasate, and always lodging in the interstices of the Muscles, and their Fibres, and also of those in the other Carneous parts.

Moreover, It cannot be imagined, nor is it by me asserted, that the Vessels are all of them, even the minutest, so wholly occluded, as that thin matter cannot extravasate; but so sufficiently done, and to that degree, as to secure a too liberal and extravagant effusion of their several Liquors, and serous Juices; to which may be added, that its restrictency is not by any manifest, or strong Stypticity, but by the way and accidents,
already

already explicated by the foregoing Experiments.

But to proceed : *Thirdly, It is incomparably the best Balsam to heal Wounds of the Nerves,* to which it seemeth so particularly adapted ; that as it seldom faileth of doing it, so nothing else hath been hitherto found to come near it in that quality, saving as they have more or less thereof commixed : Every one is so much an Anatomist, as to know that it's difficult, if not impossible to make a Wound (great enough to deserve the name) without hurting some branches of the Nerves, they being so thickly divaricated into all the parts of the body (the Lungs excepted) some being of a belief, *that the skin is a fine woof of Capillary Nerves, Veins, and Arteries, receiving into it the ends of the excretory Vessels, arising from an infinite number of little Glandules.* Now the whole *Genus Nervosum* being the conveyers of sense and motion, are vehemently aggrieved, when wounded, distorted, contused, &c. the former of which especially, this Balsam pacifieth, and healeth no less wonderfully, than evidently ; by which *Convulsions, Palseys,* and other effects thereof are prevented and remedied ; especially those direful ones, which follow their being punctured, as I have already intimated.

Fourthly,

I.B. Hamelus de corpore animato, lib. 4.

Fourthly, After Amputations, it hath one singular good effect above most other Applications; that is the contraction of the Stump, keeping also the lips of large wounds from expanding to that degree, which more lax and soft applications admit, whereby the intention of cross stitches is in part prevented; this is done partly by hardening the lips of the Wound, (at which I would advise him that finds it, after the application of this Medicine, not to be concerned) but partly by the edges of the Pledgets, adhering to the lips of the Wound, when the spirits expiring contract them, according to the Second and Third Experiments. Hereby is prevented those ghastly and unseemly swellings of Wounds, and spreading of Stumps: not that they stick so firmly, as to be obnoxious to the objections made against the like accident of glutinous Applications, Page 14.

Fifthly, It solely and perfectly healeth Punctures, and incised Wounds by Symphysis; (where neither of them are very large), and that maugre its digestive Faculty. I know the same is performed by the application of moderate Astringents that have no Acids in them; but as such cannot secure the Hemorrhagies that are large and deep, neither can they reach effectually to the bottom

tom of deep Punctures. Now that it may not seem strange, I shall attribute a Power Consolidative, to a digestive Medicine. I suggest, *first*, That Consolidation is naturally performed; I mean, that Medicines do not actually unite Wounds: but by accident, *viz.* by one way or other, preventing or stopping extravasation of the blood, and Lympha, and resisting the influences of the survening Air, both which would hinder union: the one by humecting, the other by corrupting the divided Fibres, &c. There being those that spare not to affirm publickly, confidently, and perhaps very rationally, That the great and celebrated Cures, said to be performed by the *Sympathetick Powder*, and the *Magnetical Unguent*, are not beholden to them, but to the less regarded means, of keeping the Wounds clean and close: so that our Medicine, though it do digest, yet by occluding the Vessels, (as hath been shewn) it hinders extravasation, and being gummous, defends from the Air, whereby it may be thought, as well to consolidate, as any other, since it doth as much as they, in preventing and defending from what would hinder it.

Secondly, No Consolidation was ever made altogether without Digestion; for it being impossible to restrain totally the extrav-

* G. Hieron. Velschius. Cent. 11th. ob. Phys. Medicarum. Paracelsus de Vuln. trad. I. c. 14. Mr. Wiseman, page 346.

travasation of the blood, &c. It's senseless to imagine but that if the solution of Unity can be re-united, that matter must be digested, as is evident from what cometh off, though perhaps it be but little and not well cocted; and this usually occurreth in despite of Applications, drying, and binding, this though it may be not always discharge it self at the Wound, is yet to be supposed, for that Nature either recovers it by assimilation; or as it is, introvasates it, and so circulating with the blood, &c. is thrown out *qua data via*.

The sixth and last advantage of its application to Wounds, is, that it performeth all those things, especially restraining the fluxes of blood, without the pain, burning, *Synovia*, prolixity, flux of matter, and all or most the other ill accidents attending, and already discovered in the other means and applications: I hope it's not improperly called a Benefit, though it be but privatively so.

And now, Sir, I am come to give you some particular and remarkable instances of the successful effects, attending the application of this Medicine; which confirming *de facto*, all I have said concerning it, I think is not Illogically placed here, it being according to the method of late practi-

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Sc&A. 49.

Lib. 9.
Method.
cap. 6.

cal Writers, *Willis*, *Wiseman*, *Stubendorfs*, &c. which last named, in the conclusion of his Theory on the *Scorbute*, justifieth the pertinency of annexing Observations to such Discourses, in these words: *Nam si Galeno gravissimo medicinae testi credimus, non sufficiunt ad exactam cognitionem universalis, nisi in exemplis & particularibus una exercitemur, quod in iis, ut Galeni verbis utar, methodus, in his exercitatio consistit.*--- Those which I present you, shall be few and concise, though I have often used it in divers *Hemorrhagies* not here mentioned, and with the same prosperous success, and that by Experiments on Dogs, &c. Also by communicated observations, and by my own in divers Wounds and Amputations, made in this Hospital, I still found it most happy and successful, yet think it needless and too tedious here to recount them all: those following being of different circumstances, I have collected from the rest.

Observation I.

A Man of a plethorick Habit, aged about forty years, was sent to the Hospital from his Majesty's Ship the *Adventure*, being shot through the right Elbow with a Musket-bullet, which had lacerated the bones,

bones, and torn the Vessels exceedingly; the member from the Wound downward, was *Oedematous* and senseless for want of a due influx, the Vessel being so hurt. In short, an Amputation became necessary, and I accordingly took off the member in presence of two Chirurgions, besides my own people, my Ligature and other preparations were common; after Excision, the bone being also divided, I covered the whole Wound with one well-made Pledget of fine Tow, dip'd in hot Oil of *Terebinth*; upon which I laid two more, armed with the common Defensative, and bound it up *S. A.* dipping my Linnens in *Posca*, taking off my Dressings the next day; I found the whole Wound look excellently well, with a white tendency to digestion; some little vesications were on the edges; but without smart or inflammation; those I dryed up with *Unguent. Album*, first snipping them with my Scissors: I repeated my Dressing of *Oleum Terebinthinæ* once more, and in a little time healed the Wound.

Observation II.

About the same time, I was called to one *Mr. Collings* a Woolsted Comber, of sixty five years old, who by a malignant Fever

(under which he had laboured five weeks) was not only much emaciat , and dispirited, but had a confirmed *Sphacelus* of the right Leg, from the Knee downward. I was in company with some other Chirurgeons, when I was called to this Patient; and understanding the business, I invited them to see it. In their' presence, I made divers large and deep Incisions, but neither sense nor blood appeared , but a very noxious scent. We all concurred in opinion, that a speedy Amputation was to be made: while my Servants were preparing the Dresses, we discoursed the place where the work was most needful, and what applications were most proper; they advised the former to be done above the Knee, and the latter to be hot *Egyptiacum*, and spirit of Wine. I resolv'd another course, for making my Incision a little above the usual place , below the Knee, and there dividing the bones, I laid on two Pledgets, dip'd in very hot *Oil of Turpentine*, and common bandage over all: there issued a little grumous blood after the Incision, and because I found some remaining parts of the cadaverous flesh, I touch'd the whole Stump with a cauterizing Iron, not to stop any flux, but to assist the exfoliation and separation of the Sloughs, quicken the life of the part by so attracting the spirits, and
killing

killing any remaining venome and *Sanies*. The next day, having prepared *Lixivium*, *ex. Absinth. Scord. Rutæ. Centaur. Ciner. Lignor.* cocted in Sea-water, and impregnated with Brandy; I fomented the Stump therewith, and dressed it again with my hot thin Oil of *Terebinth*; the next dressing I found the reliques of the *Necrosis* dried up like a Crust, and considerably separated from the quick flesh, from whence I saw good tokens of digestion; the old man was very couragious, I continued (in all four days) to dress with *Ol. Terebinthinæ*. After seven, the Sloughs came all away, and never did I see fairer digestion; but when the quick and sensible parts became naked by the exfoliation of these *Eschars*, though my dressing were as benign and mild as could be, yet the smart and pain happening to disturb him of his rest, under which his depauperated spirits were unable to subsist; he languished to Death, though the wound altered not, and that I gave him high Cordials very liberally, with what else Art directed; I being very greedy of the recovery of so remarkable a Patient, after such prosperous beginnings.

That which made me prefer *Oleum Terebinthinæ* here, was the success thereof in two such cases on a couple of young men,

whom I had amputated in the mortified parts of both their Legs, and found that a soft Cautery and this Medicine, did incomparably absume the Sanies, and excited the spirits of the adjacent sound parts, so as to induce a speedy separation and good digestion: My success, I say with them, encouraged me to hope the like here; though theirs were both Legs taken off within twenty four hours distance, and not wholly quit of a spotted Fever, in which having been *delirious* on board the King's Ships, to which they belonged; they had either kept their Legs over the Hammacks, (it being a very cold Winter,) and so nummed and mortified them, or they became so from the stagnation of the blood, the effect of that coagulation, which highly venene Diseases do usually beget therein, if it be not carefully diluted, kept fluid, and in warm motion by proper Sudorifiques.

Observation III.

Anno 1672. A Chirurgion of this place (now dead) craved my advise concerning an *Hæmorrhæa* that vexed him, in a very weak Patient, who had a *sinuous Ulcer* about the middle of the *Tibia* on the inside; the Cavity of which ran under the bone, and ascended

cended obliquely towards the Knee; where probably (the matter being thin and sharp) it had eroded an Artery, or a Vein, and begat this flux, which became intolerable to one so much extenuate as he was; I advised him to inject equal parts of *Oleum Terebinthinæ*, and a Decoction of *Tormentil*, *Bistort*, and *Knotgrass-roots* made in *Styptick Wine*, and to retain it from one dressing to another: which he accordingly did, and the bleeding molested him no more.

Observation IV.

A Carpenter, by name *Richard Sellar*, looking up towards the top of an House, whereon some Heliars were at work; by chance a shindle-stone falling down, alighted on his face, and made a long deep Incision, from the right Nostril towards the Grinders: an Artery that was wounded thereby spouted out blood, in as large a stream, as an ordinary Syringe-pipe could vent. I stop'd it with my Finger, whilst my Servant warmed some Oil of *Terebinth* in a *Uvula spoon*; when it was ready, I withdrew my Finger from the bleeding Artery, and it piss'd out as before: I immediately poured the hot Oil upon it, which instantly stop'd the bleeding like a Charm, and

F 4

permitted

permitted me to stitch it up without any flux. When I had so done, I laid a Pledget of the same over the closed lips, and a Plaister upon it; the outward lips soon consolidated, leaving no very apparent *Cicatrix*; the inside kept open somewhat longer, thereby expediting the union of the outward part, by which a very fine seam was made.

Observation V.

Shortly after this came to me a Woman, cut from the middle of the Nose, down to the right end of the Mouth, by a Knife done by a *Dutchman*, who pretended she had defrauded him; there issued such a stream, as from the last mentioned, and was after the same manner stop'd, with no difference in it, or the success; only that here a more *inconspicuous Cicatrix* was induced, whether from the dry stitch which I here made, or the fineness of her skin; or because the penetration of the Cheek was larger, whereby the matter had a more liberal vent that way, I cannot determine.

Observation VI.

Anno 75. I was sent for to a *Dutch Seaman*,

man, who being gotten drunk, threw himself into his Cabbin with all his Cloaths on: it unluckily fell out, that he had in his Pocket a sharp-pointed Knife, such as they usually carry, and that it lay in so ill a posture, that the weight of his body forced the point through sheath and cloaths, and run up above three inches (entring about the middle of the Thigh) obliquely towards his buttocks, so that the point might be an inch and half directly in from the skin, under which it lay; I drew it out, and found no part of it broken off; the Man complained of great pain, and there flowed much blood: I then injected warm Oil of *Turpentine*, and put up above half-way, a thin *Flamula* dip'd in the same: then rouled him up, drawing also about ten ounces of blood from the Arm. The man slept well all night; and after two days, I using nothing but a Pledget and a Plaister on the Orifice, the Solution being all united, I let him walk about. I bled him because he was plethorick, and I intended to heal the Wound by sympathy.

Observation VII.

A young melancholly Apothecary, being disappointed in an Amour, resolved to
destroy

destroy himself; in pursuance of which desperate determination, he first ran his Sword through his body, entring on the left side below the heart, and passing out at the right opposite to it, wounded the *Lungs* and *Mediastinum*: the Orifices were small, so that no blood issued from them, nor could I find much had been cast into the breast. I bled him largely, and gave him R. *Aq. Veronicae*, *Scabiosae*, *Sperm. Ranar.* *Plantag. an* ʒiβ. *Lap. Prunella* ʒj. *Syr. de Meconio* ʒj. *Misce.* and appointed people to watch by him, and more especially to keep from him any thing wherewith he might do himself more mischief; he lay under great horrors all night, and in the morning, by a cunning stratagem, (calling for his Breeches to give his Sister a Key, he seemed willing to commit to her particular charge,) conveyed among the Bed-cloths a Pen-knife he had therein; which when all was quiet and without mistrust, he ran downwards into the hollow of the breast, from the upper end of the *Sternum*, thinking to make the same mortal Wound, they usually do that way to young Pigs; but though he thrust it as far as he could, it answered not his end, till all was discovered. By the large quantity of blood that flowed from the Wound, I could not find that

that he had thereby hurt any internal part, or that any blood was fallen into the Cavity of the *Thorax*, but that all issued from the Vessels hurt in the containing parts, which I stopt with a small *Flamula* dipt in the hot Oil, and had almost conglutinated the Wound, as also the foremost of those in his breast in seven days: when (under continual horrors, desperations, fasting and restlessness, he had spent that time, and brought himself very low) he died.

Observation VIII.

A Plethorick Woman, by a Contusion had her right breast apostumated; she suppurated it by a Cataplasm of her own, (she being one of those Skil-less Midwives where-with the World is become pestered.) She kept the Cavity so long open, by Tents and Salves of her own making, that it became *cancerous*: the Cavity was below her Niple about an inch and an half, towards her side, from which in one night, there issued a very large quantity of blood, which she discovered not until the morning, and in the surprise it begat, sent to implore from me somewhat to stop it. I ordered her a little *Aqua Styptica R.* which she used to no purpose. At length I was sent for: I found she

she had bled monstrously, and that the blood was very florid, I thrust a thick dossil of Lint, dipt in warm *Oleum Terebinthinae* into the bottom of the *Sinus* whence the blood came, and cramming the whole Cavity with the like, dipt in *Posca*, to make the better pressure: I bound her up as well as I could, and so left her; she bled not afterward, but died in six or seven weeks of the *Cancer*, which she would not by any perswasion be prevailed on to have extirpated.

Observation IX.

Anno 76. A young Man about twenty years old, living with *Alderman W.* (whose Nephew he was) from some disappointment in Love, as was imagined, or rather as himself confessed, on a Religious account, to cure salacious heats, did castrate himself, by griping up the *Testicles*, with the whole *Scrotum* in one hand, and with a keen Knife in the other cutting them off close to the body; the sudden pain and effusion of blood made him faint and fall back on the Bed, where he sat while he thus acted *Origen Secundus*. He bled very largely before any one discovered it: when I came, finding such a large flux, and the
man

man much weakned, I hastily griped up the Wound in my hand, thereby stopping the excess of the *Hemorrhage*; while *Mr. Munyon* prepared the Dressings: when they were ready, withdrawing my hand to make way for their application, the blood forthwith spouted out, as it had been from a small Quill: but we soon stopped it, by laying on the divided *Vasa* buttons of Tow dipt in the hot Oil of *Terebinth*; and over all a large Pledget dipt in the same: over which also we put two or three Pledgets more armed with the common Defensive and boulders of Linnen, moistned with *Posca*, and so rouled him up: the blood instantly staunched, but the refraction thereof threw him into a *Syncope*, together with coldness of the extreame parts, no pulse, &c. I concluded Death would follow; we gave him a glass of Sack while the following mixture was preparing, of which he afterwards drank liberally; till his spirits were recovered to a good degree;
Rx Aq. Mirabilis, Flor. paralyticos, Melissa, Cerasor. nigr. an ʒiij. Syr. Croci optimi ʒij. Conf. Alkermes S. M. ʒiij, Spec. conf. Hyacinth. ʒj. Pulv. guttata ʒij. misce.

We opened the Wound next day, found tokens of good digestion, and as fair as heart could wish. It was long ere he could recruit

recruit his spirits, so much exhausted by the *Hemorrhage*; but the Wound in a months time was almost cicatrized, so as he followed his business.

Observation X.

A Seaman came to me, who having by accident thrust the point of a Knife deep into his hand, between the *Corpus* and the *Contracter* of the Thumb, an Artery being thereby wounded, the blood spouted out very impetuously; heating some *Ol. Terebinthine* in my *Uvula spoon*, I poured it into the bleeding Wound, which immediately stopped it; I only laid a *Paracelsus* and *Diapalma* Plaister over it, and bound him, and so let him remain two days, in which time it was perfectly closed.

Observation XI.

A *Cooper*, striking hard with his *Addis* on the Chime-hoop of an Hoghead, standing an end, and missing the place whereat the blow was designed, the Tool flew out of his hand and hit him cross the *Instep* or *Tarsus*, making a large Wound, dividing the Veins, &c. to the bone, he bled very much, he was a thin man, and of hot

hot sharp bloud; I dressed him with hot *Ol. Terebinth*, which restraining the flux, gave me opportunity to stich up the wound: some little vesications occurred by the Medicine meeting such a habit; but it begat no trouble at all.

Observation XII.

John Boddam, belonging to Captain *Patrick of Yarmouth*, standing in the coyle of an Halcer, by which the Ship was fastned: the straps that tied it giving way, he was drawn forward, and griped therein: so that both Legs were shattered in pieces, he was brought to shore and committed to my custody. I reduced all the bones as well as could be, but when the contused flesh came away, one of them hung by a Tendon or two above the Ankle. In fine, an Amputation was inevitable; he was a florid young Man, and of a replete Habit, though some of it had been rebated by the method of *Phlebotomy*, &c. used at first: after the member was severed at the usual place, I only laid on a large Pledget of Tow, dipt in hot *Ol. Terebinth*, and the other things as is usual, whereby the flux was suddenly and safely secured.

Anno

Observation XIII.

Anno 77. Captain P. Piper, the only Son of the Honourable Sir Hugh Piper, Deputy Governour of his Majesties Cittadel of Plymouth; a man of a temper abounding with Choller, adust humours: his bloud sharp and thin, received a large contused wound on the forepart of his Head, dividing some branches of the temporal Artery, contusing the frontal and temporal Muscles: he bled much, which was stopped by Mr. I. I. a great deal of pain, *Spasmus Cynicus*, and Fever followed it; a Phylician was called, *Phlebotomy*, *Clysters*, *Fulaps*, *Emulsions*, &c. had been used for nine days, and an Incarnative Dress too; when on a sudden, and without any manifest cause, the bloud rushed out from the Wound under the Dressings very copiously. I was hastily called, and cut off the Rowlers, laying the Wound bare, did attempt with my Fingers to choke the bleeding *Arteries* while my Medicine was heating: the Gentleman began to faint; I encouraged him, and directed him to keep his Eyes close shut, that none of my Medicines might get into them and pain him. He sat up whilst I laid two Dossils dipt in hot *Oleum Terebinthinae* into

the Wound and bound him up, the bloud immediately stanch'd; but some of the Oil stealing into his Eye, begat great pain therein, which we endeavour'd to mitigate, by often washing it with Spawn-water, Milk, whites of Eggs, &c. but in vain; for in despite thereof, it continued two hours, and then began to range to his Wound, as severely as at first to his Eye. I freely consented to remove my Dressings, that the Wound might be examined. Accordingly the Head was unrouled, and all taken off, save only the two Dossils, which we also were about to remove. When he desired us to forbear, for that his pain was gone. Upon which consideration we let him lie, and applying over them a mixture of *Bole*, &c. rouled him up again very slack; but no sooner was the Head covered again with the bandage, but the pain returned as sharp as before. We thereupon administred a Clyster; in the working of which he fainted: when he was recovered thereof, he became very fearful and impatient. I propos'd the giving him an ounce of *Syr. de Meconio*, they were unwilling for fear of prejudicing his Nerves: at length we agreed to give half an ounce in a Cephalick Julap;

G

lap; *Ex Aq. Cerasor. Nigr. Flor. Paralyf. Jugland. S. Peoniae. Marguerit. V. Pp. &c.* which in less than a quarter of an hour made him sleep, in which he continued some hours; upon his waking, he found himself quit of all pain, which induced us to forbear removing his Dress, till compleat thirty hours after its application: at which time I took it off, in presence of the Doctor and Mr. I. who first dressed him; both whom can testifie, that the wound was neither inflamed, red, blistered, nor crude, but of a lovely white, having in it a little, but very good matter.

I cannot imagine what should cause this pain in the Wound, except the heat of my Application accending the bilious particles of the blood about the Wound, made them heat and prick the *Pericranium, frontal Muscles, &c.* but why then no ill effect should appear in the Wound, is to me very strange; as also that upon taking off the Rouler, the pain should vanish, and return upon its being re-applied; he was very impatient, and every one knoweth, that to such, small things are a greater burthen, than weighty ones to a pacifique temper. There was one action did very much justify me, and satisfy them: which was, that

that Sir Hugh Piper himself, when run through the Thigh by a broad two-edged Sword, which wounding some of the crural Vessels, begat a monstrous flux; had this Medicine injected very hot into the Wound, and there retained by the hands of a Chirurgeon, till it had secured the Hemorrhage; after which, Tents dipt in the same were applyed also: I say, that the prosperous effects of that Application, both in restraining a flux of bloud, which would have killed a man of his Age, which had not his courage, besides the other benefits it procured the VVound, quieted him very much, who would otherwise have been tempted to believe upon the suggestions of a very invidious Person familiar with him, that some inartificial application had begot all this trouble; but he recovered, and became very sensible, that I saved his life.

If this Accident seem to disparage our Medicine, or be an Objection against it, on account of its heat; it's but to consider, whether if in this very case I had used a Cautey, or Corrosive, to which (they being the *Ultimum Refugium*) I might have been tempted, on such an extremity, I had not in all likelihood provoked worse symptoms from their

much greater heat, which would have kindled the humour into a stronger flame, and perhaps (though he had been so much bled) have begotten a Frenzy.

Sir, It were endless to enlarge upon this matter; I suppose here is enough said to satisfy every Artist; if they are not persuaded hereby, let them experiment the thing, and if it answers not all I have said of it, they will not be so fortunate as my self. I am sure I have been very faithful in the relation of fact; how defective in the Theory, I must leave to the judgment of every ingenious Reader.

And now, Sir, having shewed you the bulk of the best Treasure in this Cabinet; bless me with your patience, while I take notice of the more obvious, and less considerable Riches it contains; I mean the more common and known Vertues of this celebrated Oil, and those I distinguish into two Heads: those purchased by external Applications, and those by internal Administrations.

The Vertues of Oleum Tereb. externally used.

Our Discourse hitherto having consisted wholly of the former: I deem it most methodical to continue it, by taking notice of that sort first. I have already

ready manifested, that it restrains *Hemorrhagies*, quickens Digestion, consolidates, restrains the extravagant profluence of the *Serum*, whether from the Joints, Nerves, *Lympheducts*, or Sanguiferous Vessels: cures Punctures, and all wounds of the Nerves, and is an excellent Balsam against any hurt to them: its other external Virtues are, (with respect to Wounds above what hath been said,) that it warms and comforts those, wherein from any cause the spirits and native heat is destroyed, or impaired; it acuates the digestive quality of any Medicine; recovers Cru-dity, Palsey, Convulsion, &c. of a Wound; it moderately incarneth, and doth not a little Cicatrize, as is evident from its curing chaps of the Lips, Breast, and Fundament, or any excoriation without heat, and from whence much *Serum* floweth; it's celebrated for producing fair Cicatrixes, and mending deformed ones: to both which purposes, it's used after the small Pox; as *Euonymus Philiatrus* in his *Thesaurus* commends, from *Brasavolus*, as a Page 316. great Secret.

It crusts up Sloughs, whether *fungous*, or grangrenous, Cadaver, and sometimes not only used hot with Pledgets, but mixed with *Lixivium*; by which also it

Paracell.
chyr. mag-
na, tract. 3.
c. 7.
Beguinus
Tyro. chym.
lib. 2. c. 6.

quickens, comforts and strengthens any part, paralytick, mortified, œdematous, &c. for it warms, and attenuates, whereby the afflux of the animal spirits is accelerated; it also opens, discusseth, softens, &c. cureth malignant and sordid Ulcers, *Cacoethe ulcera*, *phagadena lupus*, is a good Liniment in Contusions, being mixed with *Oleum Hypericonis*.

One drachm thereof, mixed with *Angia Porcina*, is a most admirable Ointment for cold swellings and stiffness of the Joints, Muscles, or Sinews, from the Scurvy, Cold, or Obstructions. It betters the penetration of any Liniment wherewith it's commixed, making it also more warming and strengthening; it's Anodyne to Tumours that are painful from Cold; it's an excellent Liniment, either used by its self, or with other strengtheners, to cure *Atrophies*.

It acuates the balsamick quality of any Salve, being it self a true Balsam. *James Cook* giveth us an Oil (which he stole from *Hartman* and *Ernestus*) *quod vulnera in 24 horas sanat & est expertum.* R *Ol. Hypericonis, Lumbricorum, Terebinthinae, Mastich. ana p. e.* Misc & calide cum paucogossypio applica; Oil of *Terebinth* also dissolveth hard swellings, proceeding from a cold

cold cause, is excellent being dropped warm into the Ears alone, or commixed, to cure deafness, or noise therein, from cold obstructions, &c. it also cleanseth, or healeth Ulcers therein.

It's excellent to anoint parts contracted, nummed, cramp, convuls, paralytick, cold, gouty, pains, especially the *Sciatica*: in all which effects, a Medicine of *Paracelsus*, called *Balsamum Galbanum*, and made of a solution of *Galbanum* in this Oil, and so drawn over the Helm, is a most admirable Secret, which I would commend to the practice of the Sea-Chirurgion; whereas he shall find it a most excellent, (being also a cheap) Medicine, either used alone, or as I do, mixed with double, treble, quadruple, sometimes ten-times its quantity of any proper Oil or Ointment: Such are *Ol. Castorei*, *Catulorum*, *Lumbricor.* *Unguent. Martiatum*, *Cervinum*, &c. as need shall require. I have cured contracted members thereby in a little time, and have seen wonderful good effects produced by it in the *Paresis* of the Limbs, following bilious and scorbutick *Colicks*.

Being put hot into hollow Teeth, it aswageth their pain, especially if therein a little *Opium*, or *Camphor.* be dissolved; as to the Vertues thereof, when administred

The internal
vertues of
Ol. Tere-
binth.

internally, It opens the Urinary passages, tempers their heat, prevents and cureth the Stone, cleanseth the Reins and Lungs from any tartarous mucilages; cures the *Gonorrhœa*, cleanseth the generative parts from venereous impurities: is excellent in the *Strangury*, *Dysuria*, *Ischuria*, brings off Gravel and calculous matter; cureth Ulcers in the Reins and Bladder, pain in the Back, proceeding from any of the said causes, or from Cold; cureth pissing of blood, taken in juice of Yarrow, Nettles, or Plantain.

It cureth Coughs, taken in Scabious, Colts-foot, or Hysop-water; cleanseth the Breast and Lungs, taken in Ptyisan or pectoral Decoction; cureth Ulcers there taken in Conserve of Roses, Camphory, or Ground-Ivy, or drunk in equal parts of *Aq. Veronica*, *Hedera terrest.* & *Aq. Calcis*: sweetned with *Syr. Pilosellæ*, quickens expectoration of matter, taken in pectoral Decoction, sweetned with *Oxymel of Squils*, or *Syr. de Erysimo*, cureth the *Phthisis*, mixed with the Conserve of Roses, and all (especially cold) afflictions of the Breast; it openeth, warmeth, and comforteth nervous parts, taken in a proper Vehicle, as the case may require; it is an excellent corrector of *Opium*; it cureth internal Contusions,

See Mat-
thew's un-
learned
Alchymist;
page 27.

tusions, given in Spruce-beer; Carduus-water, or *Aq. Polygoni*, consolidates internal Wounds and Ulcers, especially of the Breast, where it not only healeth the parts, but deriveth and evacuates the matter by Urine, being given in vulnerary Drinks, &c. It cleanseth the stomach of viscous, sordid, filthy matter, taken with *Aq. Menthae, Centauriae, aut Absinthij, vel vino Albo*: it warms the seminal parts, & *libidini stimulos addit*; it cleanseth the Womb, and cureth Uterine suffocations, taken in *Aq. Naphae, Aq. Artemisiae, Decoctum splene bovis, Querc.* it openeth the Spleen, taken in Tamarisk, Ceterach, Ash, Harts-tongue, Heath, or Smallage-water; resisteth pestilential malignity, taken in some proper *Alexiterial* Medicine.

Though the *Gonorrhœa*, being usually accompanied with heat in those parts, seems a Disease more aptly aggravated, than remedied by this Medicine; yet it, by carrying off those fiery particles, and cleansing the parts from that venene matter, which is the *pabulum*, and inflames; takes the heat also (which is its effect) away: stopping also the flux, by healing the vellications of the *Prostata*, which causeth that weeping, commonly supposed, and denominated a flux of the *Sperm*, and running of the Reins.

In all which cases, its dose is from *Gut.*
V. ad

V. ad 9 j. & 3ß. always taken in a pertinent Vehicle, never alone: all those additional vertues which I have here adscribed to the Medicine, have been the suggestions of the following Authors, my own Reason and Physiology, and for the most part confirmed to me by experience: The Authors wherein all, or most I have said, may be found, are, *J. Beguinus* in his *Tyracinium Chymicum*, cum notis *J. Barthii.* & *J. G. Pelshoferi*, lib. 2. cap. 4, & 6. *J. Ernestus de oleis Chymice destillatis*, page 434. *M. Le Febure*, part. 2. lib. 2. cap. 9. sect. 10. *M. Charras pharmacopœa* 11. *R. Galenique*, & *Chymique*, part 3. lib. 1. c. 42. *Mr. Woodal, Zwelfer*, and the *Augustanes*, *Mant. Hermetica*, *Euonymus Philiatrus*, *deremediis secretis*, page 316. *Paracelsus Chirurgia Magna*, tract. 2. c. 4. & tract. 3. c. 7. *M. C. Glassier* in his *Compleat Chymist*, lib. 2. sect. 2. cap. 7.

And now, Sir, This occasion would tempt one that understands so well as I do, the great kindneses you have done the Practisers of our Art, in an age wherein they are so much contemned and disparaged; to Caress and Complement you for that Obligation: but I will not offer that affront to your modesty, nor can I imagine it needful here, because the publick military Chirurgeons, are the persons for whom it's designed, who
having

having had all of them the sensible benefit thereof, as well as my self, cannot be wanting in their resentments of those advantages you have so generously and candidly procured them, as I am a participater of the latter; I'll assure you the former hath very strictly bound me, ever to be your most affectionate, and grateful, as I am,

Your very much obliged Servant,

Plim. April 8.
1678.

James Young.

POSTSCRIPT.

SINCE my finishing these Papers, I have met with a passage in *Mr. Serjeant Wiseman's Book*, page 359. which seeming to oppose and deny some of those Vertues I have here attributed to *Ol. Terebinth*, obligeth me to take notice thereof, and to justify what I have affirmed, contrary to what he there delivereth in the History of a Maids case; *Who*, saith he, "by a young Chirurge-
"ons attempting to bleed her in the Saphena
"near the Ankle, had a puncture of a tendon
"there, which was dressed with hot Oil of Te-
"rebinth; her pain thereupon increasing, I was
"called, and found the Chirurgeon about to re-
"new

“new the application of his hot Oils : but ob-
 “serving the lips of the Wound turgid and dry,
 “and the parts about it inflamed, I pre-
 “vaild with him to dress with warm Basi-
 “licon, to embrocate cum Ol. Rosar. &c. and
 “apply a Diapalma Plaister malaxed over all,
 “and let it so abide three days: in which
 “time it became well.

The implication is strong against the use
 of *Oleum Terebinthinæ*, as if it had made
 the Wound turgid, and dry, and inflamed
 the part: the first and last are known usu-
 ally to follow punctures of the Tendons:
 and yet even where they urge, *Johannes de*
Vigo, and *A. Pareus* do especially, direct to
 the use of scalding hot Oils and Cauteries.
 Now as to this case in particular, if it were
 a punctured Tendon, the *Oleum Terebin-*
thinæ had healed it (as appeared by its dri-
 ness) and prevented the common and most
 pernicious accidents, as Convulsions, Con-
 traction, &c. which would without doubt
 have seized her without it, and that those
 mentioned were cured by the after-appli-
 cation, for I never heard of any cured by
 the absolute use of Anodynes: or one ap-
 plication of a slight Digestive, as by his ad-
 vice was here applyed; but as he had be-
 fore generally directed, by applications hot,
 and dry, and of subtil parts, (though there-
 with

with Anodynes to prevent accidents are very necessary) in which all Authors treating thereof, seem to concur : Such are *Gal.* lib. 6. with c. 2. *Avicen*, lib. 3. c. 4. *Vigo*, lib. 3. c. 15. *Guido*, in lib. 3. *Gal. Pareus*, lib. 10. c. 38. *P. Pigreus*, lib. 3. de *Vuln.* c. 5. *P. Barbet.* c. 8. p. 2. *Mr. Bannister*, lib. 2. c. 10. *Dr. A. Read*, *Lect.* 2. *F. Sylvius*, nov. *Idea*, part 1. c. 42. *Mr. Clows obs.* c. 10. as is also evident in the method of *P. Forestus*, lib. 6. *obs. chyr. obs.* 38. *Scultetus*, *obs.* 64. All which are according *Mr. Wiseman's* excellent Direction, hot, dry, and subtil ; such are *Aq. Vitæ*, *Ol. Terebinth.*, *Ol. Euphorb.*, *Ol. Sabinum*, *Castorei*, *Pulegii*, Powder, Plaster, and tincture of *Euphorbium*, rectified Spirit of Wine, &c. all to have an actual heat added to their potential, especially when the pain increaseth, and the lips swell ; so that I may rationally presume to doubt, whether the wounded Tendon were not cured, and the usual symptoms attending them prevented by the first Dress ; and whether a reflection on the neglect of cojuvant Anodynes, had not been more just and rational, since *de facto* it appeared, they only (and not much neither) were wanting to compleat the work, by removing those lesser accidents, which might be the effect of the Patients ill habit, most Women, needing
Phle-

Phlebotomy, there being so, else it becomes doubtful, whether any Tendon was punctured, except there were more pertinent symptoms to prove it, than the Serjeant was pleased to relate. This I am tempted to scruple also, from its being cured by one pledget of *Basilicon*, and a mildly Anodyne Plaister; which doubtless, as it could not without a Miracle heal a punctured Nerve; so it is a most incomparable way of remedying those ill effects, the consequents of festering punctures, in ill Habits; the *Basilicon* digesting, and discharging the matter, while the Plaister and Liniment prevented and cured the pain, heat, and conflux, which would otherwise beget worse effects.

How frequently Women that need *Phlebotomy* in those parts are either *Cachectick*, obstructed, or phlethorick, needs no proof, nor how incident such habits are, to have severe symptoms follow; not only regular and well-performed *Phlebotomy*, as *Mr. Wiseman* hath well hinted, but even small punctures of Pins, Fish-bones, Needles, or the like, where no Tendon or Nerve hath been touched; as hath been evident from the symptoms which have had no relation to them, or their kind: but have apparently been produced by that blood and matter, (especially if a Vessel be hurt) that hath
been

been extravasate into the inconspicuous Wound, which being either very menstruous, as in Women, or venereal, as in some Men, or sharp, &c. as in most others: hath for want of vent diffused among the tender sensible parts, gnawing and corrupting them, which (as all pains do) also attracting, and heaping up matter: and as soon debauching it, gangrenates, or at best rots the part, so much as in some, to cost the member. This I have again and again seen to succeed punctures in the Fingers, for want of timely Art.

That exquisite symptoms have been the effects of slight simple punctures, meeting an ill habit, is the positive averment of *Galen*; of which also there is a notable instance in *Mr. Grand Prex*, which though he calls the puncture of a Nerve made by a Needle, was doubtless no such thing; *first*, because he had no pain in two days, which were impossible in a puncture of a Nerve or Tendon; *secondly*, because it submitted only to an antivenerial suffumigation of the part, which he was induced to make use of, because he had been lately pockt; and that all the commonly practised ways had no good effect.

Lib. 3.
Method.
Observ. 5.

And *Mr. Wiseman* himself excellently well observeth, that after *Phlebotomy*, severe symptoms

ptomes do sometimes arise on the part bleed-
ed, which though they are not from a pun-
cture, yet the vulgar, and the envious usu-
ally so apprehend them. I know a very
good Chirurgeon who had an *Erysipelas* in-
vade an Arm, he had bled, the which
to revel, and derive, he opened a Vein in
the other also, which became thereupon af-
flicted, as its fellow-member was: both
which he cured by purging and diet, which
plainly demonstrated that there was no pun-
cture, though the people to his great da-
mage would not so understand it.

I never had the misfortune of puncturing
a Nerve or Tendon once, nor the unhappi-
ness of the imputation more than twice:
the one was of a young cholerick Man,
who sitting all the following night at Dice,
(which he managed with the hand I had
bled) had the part apostumate over the
median Vein; in which place he being thin,
and impatient, it made severe symptoms:
my absence induced him to apply himself to
one, who mistaking it for a puncture, drop-
ped upon it hot Oil of *Terebinth*, and laid
on a *Paracelsus* Plaister, which so accended
the humours in the part, already inflamed
with a beginning *Phlegmon*, that he could
not indure it; by which time I being re-
turned, laid on an Anodyne and mildly sup-
purative

purative Cataplasme, a small pledget armed with *Unguent. Basilicon*, being first applied to the Wound, which soon opened it, and discharged the matter to his great ease. I enlarged the Orifice, and gave it more liberal vent, upon which it soon healed up.

The other was a person of Worship, Sir B. G. the Engineer, who labouring under an intermitting Fever, (as I take it) was by *Dr. Sprages* order bled by me, after which I saw him not in three weeks, and then found him among the Workmen at the Cittadel, where he told me all was well, save some Colical pains, which had lately seized him. Soon after this he journeyed to *London*; about six weeks after the operation, his Worship's Arm began to pain him, and impostumate; it was my ill luck, that he fell into the hands of some Chirurgeon in *London*; no less envious, than ignorant; who affirmed it to proceed from my inartificial *Phlebotomy*, made so long before, and (which was a great Miracle) that I had prickt a Nerve: this so enraged the Knight, as made me bless my self, I was beyond the reach of his Swords point: I laboured to satisfy him with (what is not always prevalent) *Reason*; and did earnestly importune him, to give me the name of that good man my Accuser, which though a most reason-

H

nable

nable Suit, was yet denied, and to this day I know him not; but if this Paper ever fall into his hands, and if he have any sense of generosity in him, it will oblige him to acquit, or justify himself.

He might have affirmed innocently enough, that my bleeding him had occasioned this accident; had he assigned the true Reason, not the puncture of a Tendon, as he ridiculously did: but as I am induced to believe, that it was the remains of the *Febrile Pabulum*: part of which, having been before discharged that way, and now moved by a *critical Fermentation* was come to seek vent, (or rather Nature endeavoured to eject it) the same place: but missing it, did there deposit it, and begat that apostumatation, which in a part so tender, from the complication of many Vessels, and a person not less so, from his long sickness and cholerick habit, might beget sharp and violent symptoms, resembling those of a Puncture; differing herein, that all such are sudden as well as violent, and do soon affect the whole *nervous genus* with *Convulsions*, *Spasms*, *Contractions*, &c. as the late quoted Authors do all aver, and the following notable Case, notoriously manifests.

A Woman aged about twenty five years, living with Mr. B. His Majesties Surveyer in
this

this Port, being of an Habit replete with ill Juices, and full of other effects, resulting from Uterine obstructions, was punctured by an Apothecary attempting to open the *median Vein*, in the great Tendon under it: intolerable pain, contraction, and tumor immediately seized the part, together with faintness, &c. though the unhappy bleeder had given her a draught of some hot Cordial-water to prevent it. The accidents gaining considerably and encreasing upon her; he was sent for, and though it were very apparent from the great and sudden inflammation, tumour, contraction, and sensible tendency to Convulsions, that the Tendon was prickt; yet he affirmed it was nothing extraordinary, nor more than would be soon cured, by anointing the part with some Oil of Elder, and Rose-flowers: they unhappily believed it, and relied on that one Medicine till the next day; at which time, the symptoms were become so vehement and threatening, that they called me. I immediately assured them of the reason and danger of all those accidents, and betook my self to remedy what I could of them, and prevent the survening of worse, which I saw at hand; whilst I ordered some topical application, my Servant bled her at the opposite arm, and drew ten or twelve

H 2

ounces:

ounces : by which time my Medicines being ready, I dilated the Orifice, and poured in- to it *equal parts of rectified spirit of Wine, and Oleum Terebinthinae*, made very hot, and upon it a Pledget of *Unguent. Basilicon*, embrocating the member with this Liniment ; *Rx Ol. Rosarum, Catellorum, an. ʒ j. Balf. Galbanati ʒ j. misce.* and so wrapped it in Lin- nen, dipt in *Posca*, and rouled it up from the *Carpus* to the shoulder : I also ordered a sharp Clyster to be administred , and the following Julaps, and Powders to be pre- pared ; *Rx Aq. Naphæ, Cerasor. Nigr. ana ʒiiij. Lumbricorum Mag. Brion. Comp. Peon. C. Syr. Artemisiae, Peoniae. S. ana ʒiʒ. Tinct. Succini Castor. ana ʒ j. misce.*

Rx Pulv. Guttatae. S. M. ʒ j. Marg. verij. p. p. Sal. Succini ana ʒ j. m. f. chart. 4. un. quart. quaq; hor. sumend. c. haustulo prædicti Julapi.

But e're these things could be given, her pain, inflammation encreased, and threw her into frequent Convulsions : I repeated my Dress to the Wound , and wrapped the arm in an Anodyne Cataplasm, *ex lacte, mi- ca panis Alb. Florum, Sambuci, Rosarum, Craci & Unguent. populei* ; appointing a temperate Dyet, *viz. Grewel* for meat ; and for drink, a ptyisan of *Barley, Liquorice, Rad. Peoniae. flor. Peonia. Tamarinda, cocted, and made*

made pleasant with Syrup of single Peony Flowers.

The next morning, I found the contraction of the arm increased, the Convulsions had come oftner, and *Lipothymia* more frequent, which had almost induced me to divide the punctured Tendon, but I determined yet to forbear; and repeating the Clyster, I embrocated the Neck-bone down the Spine, shoulder, over the *Biceps*, *Deltoides*, and *Brachicus musculus*, &c. especially, with the aforesaid Liniment: towards noon, finding no abatement, and my Patient in imminent danger of life, led by what resolution I know not, I still resolved to forbear the cutting asunder of the Tendon; and instead thereof, I scarified all the forepart of the arm, from the shoulder to the *Carpus*, especially over the muscles above-named, and about the Puncture, from which issued a thin blood in great abundance, even to a pound: I made one deep cut over the Tendon, according to his length, making him bare almost an inch, into which I poured my mixture of spirit of Wine and Oil of *Terebinth*, made very warm, and bound up the arm with Ligature, &c. as at the first, and continued all the other Medicines; by the next Dressing, which was at night, I prepared this Fomentation.

H 3

Rx Fo-

Rx Foliorum Paralyſios, cum Flor. Salviae, Betonicae, Hyper. ana m. iij. Laurini, Lavendulae, Rariſmarinae, Scardei, Ruta, ana m. i. s. Flor. Sambuci, Melliloti, ana m. j. Concif. & coq. in conq. i. s. Aq. Fontanae, ad tertie partis abſorptionem, fiat Colat.

Wherewith I bathed the whole member for half an hour, deſigning thereby to ſtrengthen and eaſe the Nerves, diſcharge the Sanies from the punctured part, and diſcuſs the matter, which the pain had plentifully contracted in ſo ill an Habit, and which threatened a Gangrene; and becauſe in many nights ſhe had not ſlept, and was ready to periſh for want of it, and eaſe, I ventured to give her this ſlight Hypnotick: by whole mixture, you will ſee I endeavored to prevent, and had regard to the miſchief it might do to the *Genus Nervosum*, here ſo conſiderably aggrieved.

Rx Aq. Jughind. S. Flor. Paralyſios, Papav. Rhead. ana ʒvj. Syr. de Meconio ʒʒ. Spec. diambrae. ſ. m. Gutteta ſ. m. ana ʒʒ. Tinct. Caſtorei, Laudan. Liquid. Helmonti, ana gut. 6. miſce.

And the better to ſecure the Brain from any prejudice thereby, I ordered a Clyſter to be adminiſtered half an hour before, and ſo left her; I was unquiet all night, in fear of her, the caſe being eſteemed deſperate

rate by all people, made me so anxious, for fear of missing the reputation I should gain by so considerable a Cure, if I could effect it: I visited her early, and no less to my joy than admiration, found she had slept well all night, was in moderate temper without that ardor and thirst, heat and pulsation, tumour, pain, or Convulsions, which had been so severe upon her; there seemed none of that legion of Devils that tormented her left, but the contraction and debility of the part, with the hardness and intumescence of the injured Tendon; there was reasonable tendency to digestion, in all the incisions I had made, excepting that over the Tendon, which was still somewhat crude, and *Ichorous*; I fomented the member as before, adding now a little spirit of Wine thereunto, and dressed the incision over the Puncture, with *Basilicon* acuated with *Oleum Terebinthinæ*, and both made warm; encompassing the member, in a cerat of *Diapalma*; *Stict. Paracels. & cera citrina, ana partes æquales*, and so rouled it up. To be short, from this time she amended, in all respects, the scarifications soon healed, saving that on the punctured Tendon, which being largest, and on the center of all the pain, &c. was last cured, when nothing remained but the contraction of the member,

and hardness of the sinew, which however was not so much as before ; hereupon I added some *E. Oxicroceum* to the Cerate, and framed the Liniment thus : *R. Unguent. Nervin. Martiat. Ol. Palmæ, Ol. Catellorum, Castorei, ana ʒj. Bals. Galbanat. ʒiij. Ol. Succini, ʒβ. m. fiat linimentum, S. A.* By these in six or seven days time, the contracted Tendons and muscles did manifestly relax ; so that her arm, though still weak, was passively extensible, above half its due latitude. I now purged her, with *Pill. Succino. Tartar. Quercetani, ana ʒj. Resinæ Zallap: gr. viij. cum q. s. Bals. Peruviani p. Pill. 7: aurat. q. s.* They wrought about eight motions, and seemed to have relieved her very much ; from which time I left her to generals, and Dyet, continuing the Ointment, once in two days, which I directed to have chaffed well in, after the member had first been well foked in the reeking *Viscera*, of a newly slain Beef ; it was long e're she could of her self extend her arm fully, and somewhat longer e're the strength of it returned perfectly.

It happened, (which I had forgot to intimate) that a few days after her purging, she being returned towards evening from a walk she had made to visit some Friends in Town, fell into a severe Paroxysm, convulsit, hyste-

hysterical, &c. in which I thought she would have died ; I gave her a draught, &c. which recovered her, after which it never returned ; I repeated the Pills, &c.

The prick of a Tendon, could scarcely have happened with more circumstances, than it did here ; for the pain thereof attracted so powerfully the ill Juices, wherewith she abounded, that she was in equal hazard of Death, from their causing a Gangrene, as from the convulsive effects of the Puncture : more severe and cruciating symptoms I never saw in my life, in a body so unfit for them, and so unable to brook them : and certainly, had I delayed making that liberal discharge, by the scarifications, comforting the part, and discussing the matter by the Fomentation, and allaying the fermentation of the blood and humours by the Opiat, but that night, she had been in her winding-sheet, by the next ; for the restoring the strength, and extension of the member, I own my self indebted principally to the *Balsamum Galb.* of which I have already spoken so well.

Sir, I will relieve your patience when I have related one Observation more of the effects of *Oleum Terebinthinæ*, in an *Hemorrhage*, happening by a Wound to a young Gentleman, *Mr. A. Cock*, Servant to an eminent

nent Merchant, and then Mayor of this
 Town, Mr. J. Lanyon, who whetting a
 long Penknife on a Hone, the Knife drop-
 ping out of his Hand, fell towards the
 ground, between him and the wall of the
 Window, against which he stood: he in-
 considerately thrusting his belly forward to
 stop it, and it unhappily falling with the
 point towards him, run up into the infe-
 rior part of the left *Iliac*, from whence is-
 sued a great stream of Arterial blood, which
 in a very small space had ran a great quan-
 tity: I found him bleeding, in great pain,
 and very faint; I forthwith injected *Oleum*
Terebinthinæ, and thrust in a large Tent,
 dip'd in the same, and bound him up, ad-
 ministring a Clyster, by the working of
 which, I saw the *Intestines* were not hurt,
 as I feared; I continued my Tents armed
 with *Linimentum Arcei*, and put some Oil
 of *Turpentine* with the injection I used; the
 extravasate blood cast into the hollow of
 the *Abdomen*, digested; and a Fever hapned
 while Nature was on that work, which I
 endeavoured not to check by any refrige-
 rating course, but by drinking a decoction
 of some Vulneraries, with *Crocus R. Glyz, &c.*
 and repeated Clysters of the same: which
 hastning the Coction, calmed the efferve-
 scence of the blood by consequence; and so
 securely

securely was the hurt Artery closed, that not any recent blood appeared after the first Dress, though the fragrancy of that Mass made it hazardous. When I saw fair Pus, I put in a Fistula Tent, and discharged it, and afterwards let it close. I became induced to superadd this Observation, because in it the Medicine restrained so obscure an *Hæmorrhage*, though not made hot, for fear of injuring the Guts.

A new Way of Amputating large Members, and a more speedy convenient Method of curing Stumps, than that commonly practised.

Discovered in a Letter, to his esteemed Friend, Mr. THO. HOBBS, Chirurgion in London.

SIR,

I Find by yours, that you are surprized with the intimation I gave you, of a way of amputating large Members, so as to be able to cure them *per Symphysin*, in three weeks, and without fouling, or scaling the bone. It is a Paradox that I will now evince to you to be a truth, after I have first taken notice of what you affirm, that there is a necessity of scaling the ends of those bones, left bare after the usual way of dismembring, before the Stump can be soundly cured; that you never yet found it otherwise but that where
it

it hath been attempted, the Stumps have apostumated, and the *Caries* come off thereby.

Sir, I do assure you, I have been so happy to have seen the contrary, in an Amputation made between the *Cubitus* and the *Carpus*; where, though the Wound was almost nine weeks in curing, and at Sea too, yet the bones never scaled, and the stump remained (to my knowledg many months) without the least tendency to eruption; the person then principally concerned was an old Practitioner, and one that had long served in the Northern Wars: he did assure me, he frequently neglected the scaling of the bone, and healed most of the Amputations he made in the Army, and in *Scotland* without it. I acquaint you of this for its rarity, not that I ever but once practised it, when I made Amputations the usual way, and I think it not prudent, because there is no necessity to imitate it in such stumps: for that in curing them, we have time enough for the disquamation, which is also atchieved without any great trouble; whereas should we neglect it, and find when the stumps come to be almost cicatrized (as once I did in designing to imitate the said Artist, and which made me resolve for ever to decline it) that there were necessity of doing it, by reason of a *Caries* then contracted, or but then discovering

covering it self; it's manifest what trouble it would beget, and how greatly impede the desiccation; there are those that think they ought to scale all bones, that have though but by a recent Wound been bare: and others I have met with who on the other hand too much slight the *Caries* of bones, pretending they moulder off with the matter; how equally unreasonable and vain both are, I need not discourse to so competent a Judge as your self. Wherefore passing these matters, I shall now entertain you with an account of the manner of this Operation, I would recommend to you, after I have told you, that it was from a very ingenious Brother of ours, *Mr. C. Lowdham of Exceter*, that I had the first hints thereof.

The Ligatures and Gripe, being made after the common manner you are with your Catling, or some long incision-Knife, to raise (suppose it the Leg) a flap of the membranous flesh, covering the muscles of the Calf, beginning below the place where you intend to make excision, and raising it thitherward, of length enough to cover the stump; having so done, turn it back under the hand of him that gripes: and as soon as you have severed the member, bring this flap of Cutaneous flesh over the stump, and fasten it to the edges thereof, by four or five strong stitches:
having

having so done, clap a Dossil into the inferior part, that one passage may be open, for any blood, or matter may lodg between, but of that there seldom occurreth any : then lay on a common Defensative, *Ex Bole. Sang. Dracon. Mastich, Terræ-sigil. &c. cum alb. ovor. & Aceto*, and thereto girt it close with your cross bandage, and other Compresses after their usual manner : the former, *viz. the Defensative*, not only defends from accidents: as heat, pain, fluxion, &c. but gently constipateth the Vessels, thereby contributing to the securing the *Hæmorrhage*, and very considerably assists to the agglutination : the latter, *scil. the Compress Ligature*, keeps the flesh snug and close to the ends of the divided Vessels : confirms the Consolidation, keeps the parts from Cavity, & the blood from Extravasation, and hinders that deflux of humours, which would otherwise destroy the intention of Cure.

In this sort of Amputation, that manner of compressing the Thigh by Ligature, or the arm near the shoulder, which I have recommended in the foregoing Discourse, is of excellent use, because thereby you may restrain the descent of the blood, till by your Dress and bandage, you have so far secured the part, as that it can receive no damage thereby.

In this way of Cure, Phlebotomy, Julaps, Ligature of the extream parts, if need be,
with

with what else may contemperate the bloud, hinder defluxion and maturation, and promotes Consolidation; though declaimed against in that Discourse, is in this case very useful and necessary.

In the succeeding Dressings, Medicines healing *per symphysin*, are to be used; and amongst them perhaps there are none better, than that already mentioned, adding some powder of the roots of great Comphery thereto; the dossil if you use any, may be left out the next dressing, or that following it.

That this Method hath cured such a stump in three weeks, is a truth I can vouch by sufficient testimony, and I believe you will not much doubt it, when you have perused this, and considered how easie, and soon such large Consolidation hath been made; for this, though it be no re-union, but the consolidation of flesh never before united, will yet be nevertheless effected, as is evident in the coalition of Hair-lips, the aptitude of the Fingers, Eye-lids, Lips, *glans* and *præputium*, and the * *Vagina uteri*, when ulcerate, (of which last, *Rhoenhuse* giveth us a memorable instance) to unite, and is also more strangely evident, in the stories of Sir † *K. Digby*, c *Amb. Pareus*, and *Taliacotius*, concerning supplying lost Noses; not only by knitting a part of the *homogeneous* arm; but of another mans,

to

* 3. Ob.
Med. Chy-
rurg. de
clausura u-
teri, ob. 2.
† In the
115 page
of his
Discourse
of the
Sympathe-
tical Pow-
der.
c Lib. 23.
cap. 22.

to supply the scandalous want of that obvious part, to which the incomparable Author of *Hudibras* thus alludeth,

*So learned Taliacotius from
The brawny part of Porter's Bum,
Cut supplemental Noses, which
Should last as long as parent Breech.
But —————*

I must not forget to intimate to you, that this manner of dismembring, &c. is not to be made use of, where the part hath been much inflamed, tumified from fluxion, or otherwise vexed therewith, nor in members amputated for Chronick causes: as *Cancers*, *Fistula's*, &c. or where the body is pockt, or very cachectick, because in such, digestion (which would destroy the union) is necessary to rectifie and sweeten the Mass, which it doth by draining off the *Miasma* of the disease, more than ten *fontanels* can do. It's also no less unavoidable; for the course of matter that hath that way discharged it self so long, (as in a *Fistula*) cannot of a sudden be obstructed, without hazard of a mischievous apostumation; moreover in such ill habits, as those cases either cause or result from, Consolidation is difficult, if not impossible to be so suddenly performed, as this manner of Cure requireth; the *dyscrasis* of
I the

the bloud having destroyed or weakened its Balsam, that it cannot expedite the work, which if not speedily done, cannot be performed securely and firm; and in parts inflamed and tumified by fluxion, or by congestion, it's easie to imagine, there must be a discharge of that concrete matter, which cannot be, and yet the Wound cured by sympathy.

But in most of the Amputations made at Sea in fight, or on Land in Battels, or where-soever acute accidents, such as Wounds, recent Lacerations require it, it may be done, and that with those advantages of the other way it Rivals.

First, That it's more speedy; I mean the Cure, not the Operation: for it effects it in at least one third, or fourth part of the time, that the other method can possibly achieve it: and of what good use this is, both to the Chirurgeon, and Patient, I need not trouble you to mention.

Secondly, Here no dyssepulotick Ulcer can possibly happen, as there frequently doth; especially to stumps of the Legs, when by the unavoidable prolixity of the cure, such a course of matter hath that way discharged it self, as cannot afterward be restrained, without great trouble and difficulty, if at all.

Thirdly, Stumps are this way cured without scaling

Sealing the bone: perhaps there is not much trouble, &c. always prevented thereby, as I have already told you, yet some there is at all times, and at some very much: for instance, when Nature is slow in casting off the *Caries*, and the *Hyposarcosis* usually invading stumps, about the time of Cicatrization, cover the bone before it separate, so that applications cannot be made locally, to dispatch it, which many times proves a great *Remora* to the desiccation.

Fourthly, Here is no expensive profluence, either of the Radical moisture, by maturation, and fluxion, or of the blood by Hemorrhage, or of the *Succus nervosus* by a *Synovia*: or of the lymphatick Liquor, by the lacrymation of those Vessels: ill consequences usually attending the other Method, and Medicaments.

I need not prove it, with respect to all these, they being truths too manifest to need it: I shall be particular as to the *Hemorrhage*, because it may seem a strange Assertion, that this way should have any advantage of the other, for restraining them.

That it hath so, will appear to you, if you please to consider, how much more likely it is, that the bleeding Vessels should be secured, not only from present fluxion, but future *Hemorrhage*, by the so close adhesion, and firm union of flesh, to that which is circum-

jacent to them, and (as may be presumed, *de facto*) to the ends of the Vessels themselves, than by any of the common Methods, or Medicaments I have examined; for that here the Consolidation is so quickly and securely made, by help of the Application and Ligature, that the divided Vessel can no more break out, than in cured stumps, where they have not only been stop'd by any of those common Methods, but covered by the Incarnation and Cicatrix.

It will seem less strange, if you further consider, that after the Ligature of an Artery, for an *Aneurism*, &c. when the Silk rots, or the Vessel is fretted assunder thereby, there is nothing but this incompassing flesh that stops it.

Adding also hereto, that the flap which is to cover the stump, and ends of the bleeding Vessels, after Amputation, being of the membranous flesh; is for the most part fatty, and therefore sometimes called *membrana Adiposa*: by which, though it be not so apt for Consolidation, it is the more fit for securing the flux, because lying upon the ends of the Vessels, the blood endeavouring to issue from them, cannot penetrate or strain it self through it, as in all probability it would do, in that which were more fibrous, and less *pingued*: the latter of them being impervious,
the

the former full of little interstices: Moreover, it's by * some allowed, one way of restraining *Hemorrhagies* to divide the Vessel, that his bleeding end retiring among the Muscles, their compressure may by closing him, stop his bleeding; if there be any reason for that Method, and what it presumes, it's very considerable here.

* Galen.
morb. cur.
l. 5.
A. Pareus,
lib. 9. c. 7.
Dr. Ross,
Lect. 2.

No less is a more generally allowed Method of stopping *Hemorrhagies*, viz. by Incarnation, that is, by covering the mouths of the divided Vessels with newly generated flesh: this Method of the flap, having as much the advantage thereof, as such flesh whereof it consists, is more firm and fit to do it, than what is newly generated, which is always soft and spongy.

Nor is it ridiculous to believe, that recent flesh, by some specific quality or manner of performance, stays *Hemorrhagies*, and that very strangely too, if you believe two notable Stories delivered by *Felix Platerus in sanguin. excretionem, ob. lib. 3.* the one of a Thief, who by order of Justice, having both hands cut off, had the blood stayed.—*Gal-lum gallinaceum, vivum, interea cultro à podice verus illius sternum scindendo, aperiebat & brachium mutilatum statim post ictum, in hanc aperturam includebat.*—The other of one that had his Finger bitten away by a Horse,

*Sanguinisq; fluor, multis frustra tentatis non si-
steretur* : was cured by the same way — *flu-
orque statim substitit.* —

But to proceed : *Fifthly, The cure is this
way performed with no less pain and hazard to
the Patient* ; the great pain of stumps, the
watching, *Fever, Convulsions, Syncope* ; the
effect of that pain especially at Sea, where
necessaries are wanting, are here prevented
partly from Nature's great complacency, and
the delight with which she seems to co-ope-
rate with Art, in curing *per symphyisin* : I
say, it is that wherewith she not only seems
pleased, but what of her self (as I have al-
ready suggested) she will perform, if the lips
of the Wound be kept clean, close together,
and free from the impressions of the Ambi-
ent Air.

Partly from her not being put upon the
work of digestion, or maturation : which (as
I have proved) she never performed without
a Fever, and perturbation.

And partly from the nature of the diffe-
rent Applications, which are here (as all Ag-
glutinatives) Anodyne ; whereas those cu-
red by the other way, must indure the heat
of Restrictives and Digestives, the fretting of
Detergents to mundifie, and Corrosives to
erode, the *Fungus's*, always occurring more
or less to Stumps.

Sixth-

Sixthly, It's much easier and cheaper to the Chirurgeon: the first, because much sooner cured, and seldomer dress'd; the first in three weeks, the last once a day: the second, for the same reason, and because fewer Medicines, &c. serve at each dressing: of what advantage the former is to him when many men are wounded, and especially when distant from the ease of an Hospital, I leave those to tell you that have tryed it, as I have done. The benefit of the latter, considering the scantiness of publique allowances, and the great number of men, that may at one time be under Cure, especially in a Mediterranean Voyage, is obvious.

Seventhly, Stumps this way healed, are not obnoxious to break open again on every slight rub, or knock, as do those healed by the other Method, a mischief they can hardly avoid, though they endeavour it with the greatest Care and Art; whereas this being fenced with a firm skin, is no more incident to it, than a man's Fingers ends.

Eighthly, A new and commodious sort of Artificial Leg, having a Cavity to which the stump is to be intruded, and on which the weight of the body, on the alternate motion of the Legs, must be laid, is here most tolerable and convenient: whereas the other way, scarcely admits the laying the due stress
on

on them, by reason of the tenderness of the stump, or its incidency to strip and excoriate.

These are all the considerable advantages manifestly acquired by this new Way, without doubt, use, and tryal, will discover more equal to them, and an abundance of lesser conveniencies, which at present occur not to my consideration; these are enough to shew the Novelty to be considerable, and worthy of imitation: let them have with you this accessional manifestation, that I am very ready to obey, and serve you,

Plim. Aug. 3.

1678.

James Young.

F I N I S.

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IN OUR LIBRARY—V.

JAMES YONGE's "OLEUM TEREBINTHINÆ," 1679

By JOHN L. THORNTON, Librarian

During the early days of surgery, several notable names arose from among the ranks of those following the armies in the field, or sailing as ship's surgeons. Both were hard schools, providing plenty of practice, with very primitive facilities for treating the severe casualties that were encountered, so that improvisation was necessary, and fertile brains evolved methods now considered as important steps in the history of surgical technique. Paré and Larrey among military surgeons, and Woodall and Clowes among naval surgeons, stand out as names associated with important writings on military and naval surgery, while there were many others, all pioneers in the field that taught surgery the hard way. James Yonge is rarely mentioned in histories of medicine, yet his career is typical of the early mariners who practised surgery, and his achievements are worthy of study even three centuries after the date of his birth.

He was born in Plymouth on May 11th, 1646, and before the age of eleven was apprenticed to Mr. Richmond, a ship's surgeon. In May, 1661, Yonge became surgeon's assistant to the "Montague," and was present at the action off Algiers. He returned to England the following year, and came to London to learn more surgery. On returning to Plymouth he bound himself as apprentice to his father for seven years, but before very long went to sea again, first visiting Newfoundland, and then voyaging to West Africa. On a subsequent trip he was captured by the Dutch, and taken to Amsterdam, until exchanged for a Dutch prisoner in our hands.

On returning to England, Yonge went into practice at Plymouth, but continued to study, and February, 1668, found him making a second voyage to Newfoundland. His return two years later was his final sea trip, and when a naval hospital was opened at Plymouth, James Yonge was appointed surgeon, while he also became deputy at Plymouth to the Surgeon General of the Navy. Visiting London in 1678, he met several fellows of the Royal Society, which led him to write his best-known book. Yonge held numerous offices, including that of Mayor of Plymouth, and in 1692 was appointed surgeon to the new dock at Hamoaze. He now came to London, attended the lectures of Edward Tyson, and presented himself as a can-

didate before the College of Physicians in 1702. The same year he was elected F.R.S., and he contributed several papers to the *Philosophical Transactions*. In 1703 he gave up most of his public work, and died on July 25th, 1721.

James Yonge's most important publication, the only work of his that we possess, is *Currus triumphalis à terebintho. Or an account of the many admirable vertues of oleum terebinthinae. More particularly, of the good effects produced by its application to recent wounds, especially with respect to the hemorrhagies of the veins, and arteries, and the no less pernicious weepings of the nerves, and lymphaducts. . . . And lastly, a new way of amputation, and a speedier convenient method of curing stumps, than commonly practised, is with divers other useful matters recommended to the military chirurgion [etc.]*, London, 1679, a most interesting little book, in the preface to which the author soundly rates those who steal the writings of others, and publish them as their own! In this book Yonge deals with the use of turpentine in arresting hæmorrhage, describes for the first time the flap operation in amputation, and also a contrivance similar to the tourniquet. Numerous case histories are given. Inside the cover of our copy the following information appears written in ink: "It has been said that Mr. John Hunter obtained his notions of the powers of Ol. Terebinth. in stopping hæmorrhages, from this little known work." The note further suggests that the books by Kentish on Burns and Scalds, and by Alanson on Amputation, "both . . . seem to have been founded on this treatise." Yonge's other writings include *Some considerations touching the debates, etc., concerning the Newfoundland trade*, 1670; *Wounds of the brain proved curable*, 1682, which is based on his own cases; *Medicator medicatus*, 1685; and *Sidrophel vapulans*, 1699.

Further information regarding the career of James Yonge is available elsewhere,* but the above reveals something of the achievements of a ship's surgeon, beginning his career at the age of eleven, and ending a life of devotion to surgery as the friend of Sir Hans Sloane, Walter Charleton, Edward Browne, Edward Tyson, and of Charles Bernard.

* See Munk William. *The roll of the Royal College of Physicians of London*, 2nd edit., Vol. 2, 1878, pp. 2-6.

75, Great Portland Street, W.1.
31 October, 1927.

Dr. Philip Gosse,
The Radium Institute.

Dear Sir,

You once asked me to let you know of books by "Ships' Doctors or Naval Surgeons, and I have one., just in, which besides being the work of a ship's doctor is the product of a very extraordinary man, and is also one of the important books in English surgery.

It is James Yonge's "Currum Triumphalis, e Terebintho", 1679. The author advocates turpentine for the dressing of wounds, and thus perhaps was on the track of antiseptics. But the important thing is that in this book is the first description of amputation by means of a flap, and this makes the work outstanding in the surgical books of the seventeenth century.

Munk ("Roll of the Royal College of Physicians") gives a very full account of Yonge, which if you have not the book at hand I should be glad to show you. Yonge was present at the bombardment of Algiers, knew the West African Coast, was captured by the Dutch, and yet lived to settle in Plymouth to quiet practice, and to become Mayor of the town.

I have not seen a copy of this book before, and this is a very good one.

I have moved from Hallam Street, and am now just behind (or perhaps in front) of you, a few yards away. I shall be in any day this week till 4-30, if you should be able to look in.

Yours faithfully,

Edw. Blyth.

YONGE (JAMES) Currus Triumphalis, e Terebintho, or an Account of the Many Admirable Vertues of Oleum Terebinthae. More particularly, of the good effects produced by its application to recent wounds... And lastly, A New Way of Amputation... In Two Letters: The One to his most Honour'd, James Pearce Esq... Chirurgion General to His Majestie's Navy Royal. The Other to Mr. Thomas Hobbs. 8vo., 120 pp., original calf, London, 1679. 42/-.